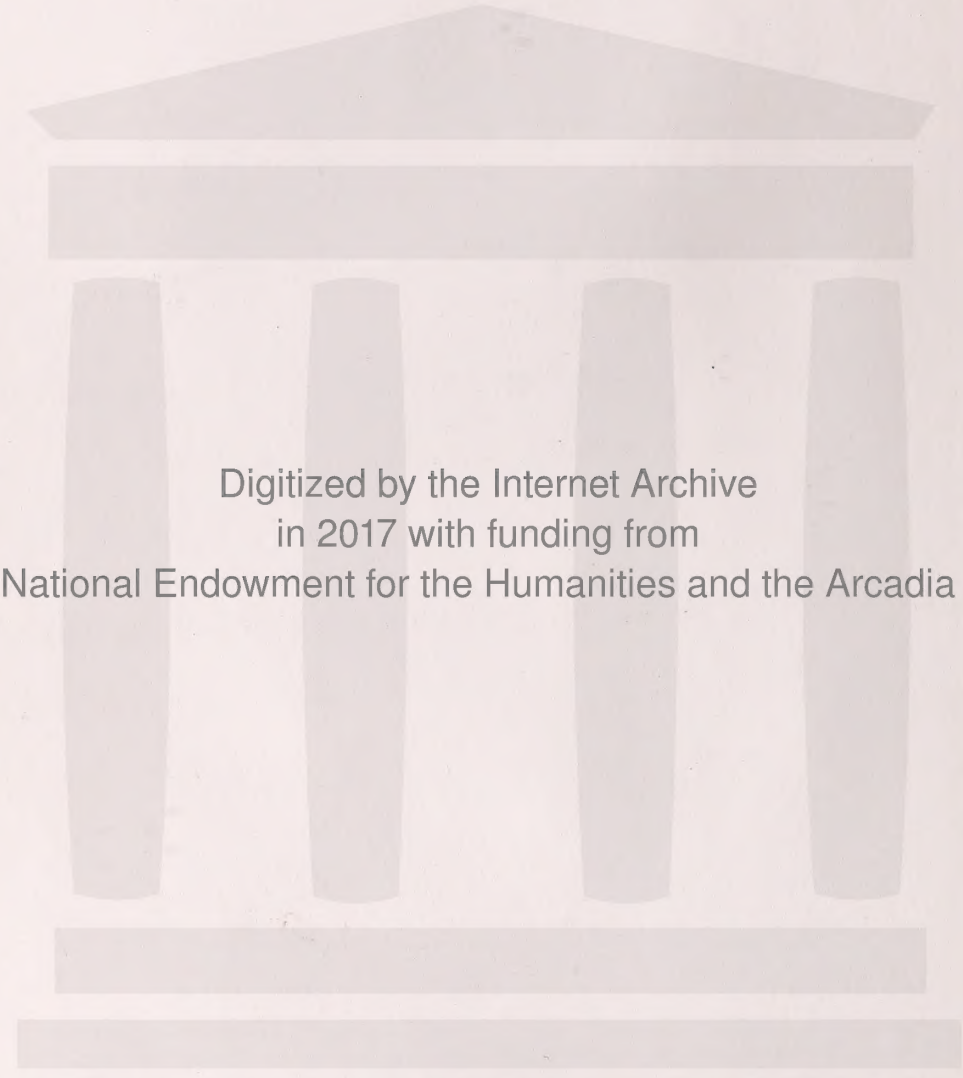


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MEDICINE *and* PHARMACY

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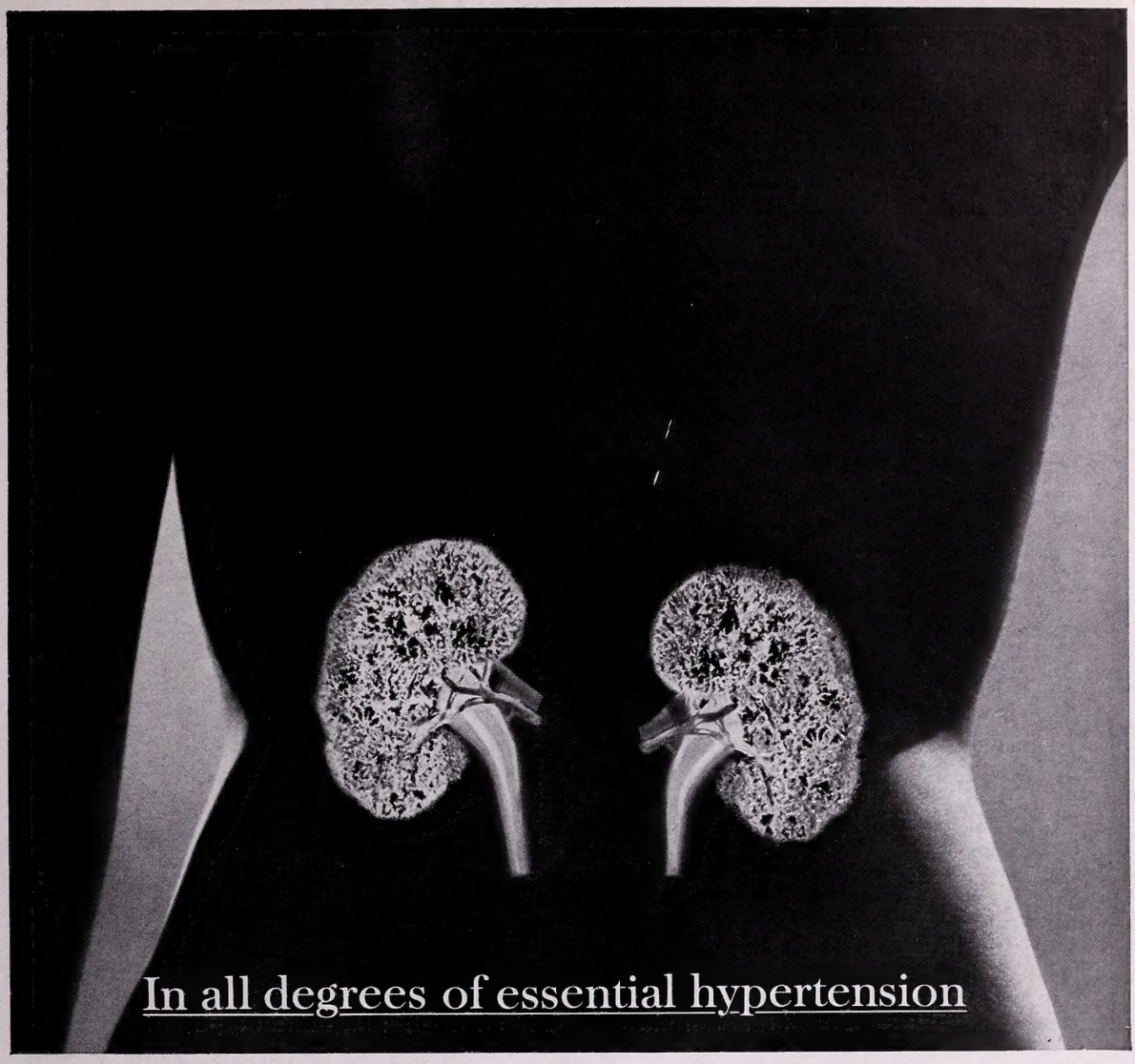
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Indications: Grand mal epilepsy and certain other convulsive states. **Precautions:** Toxic effects are infrequent: allergic phenomena such as polyarthropathy, fever, skin eruptions, and acute generalized morbilliform eruptions with or without fever. Rarely, dermatitis goes on to exfoliation with hepatitis, and further dosage is contraindicated. Eruptions then usually subside. Though mild and rarely an indication for stopping dosage, gingival hypertrophy, hirsutism, and excessive motor activity are occasionally encountered, especially in children, adolescents, and young adults. During initial treatment, minor side effects may include gastric distress, nausea, weight loss, transient nervousness, sleeplessness, and a feeling of unsteadiness. All usually subside with continued use. Megaloblastic anemia has been reported. Nystagmus may develop. Nystagmus in combination with diplopia and ataxia indicates dosage should be reduced. Periodic examination of the blood is advisable.

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References: (1) Moyer, J. H., and Heider, C.: Am. J. Cardiol. *9*:920 (June) 1962. (2) Brest, A. N., and Moyer, J. H.: Pennsylvania M. J. *63*:545 (Apr.) 1960. (3) Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. *10*:516 (June) 1962. (4) Hutchison, J. C.: Current Therap. Res. *4*:610 (Dec.) 1962. (5) Feldman, L. H.: North Carolina M. J.: *23*:248 (June) 1962.

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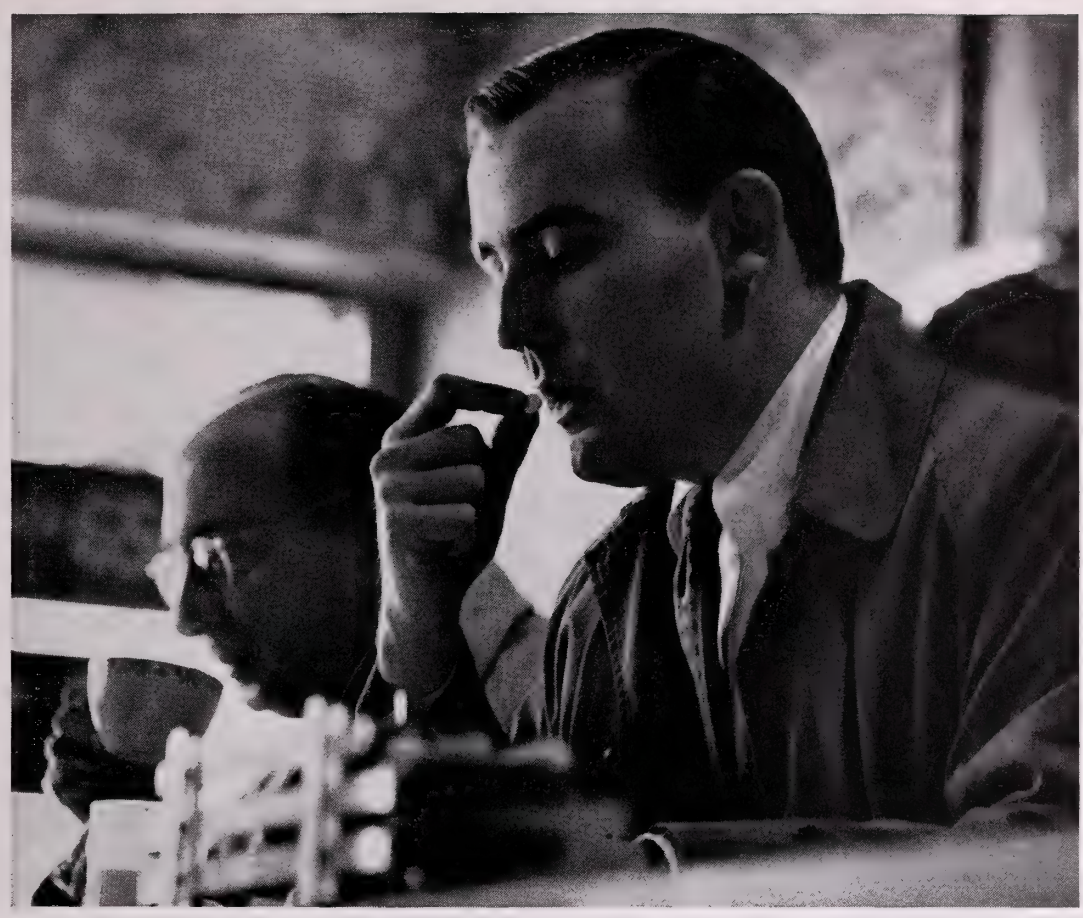
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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

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*Schwartz, I. R.:
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who were the "untreatables"?

From their inception with cortisone, to the present-day variants of the steroid molecule, the corticosteroids have presented a therapeutic paradox. The beneficial action against inflammation and allergy as well as several undesirable metabolic effects are all, apparently, the results of the same basic physiologic action.[1]

Some of these associated metabolic reactions made it risky or otherwise undesirable to treat with steroids large numbers of patients in various categories who would otherwise have benefited from such management. These "untreatables" were overweight, had cardiac disease, hypertension, or pulmonary fibrosis associated with congestive heart failure. Also in this category were those patients whose emotional symptoms were aggravated by earlier steroids.

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Side Effects. Since it may, under some circumstances, produce any of the unwanted effects common to all cortisone-like drugs, discrimination should always be exercised in administering ARISTOCORT® Triamcinolone. Any of the Cushingoid effects are possible, as are purpura, G.I. ulceration, increased intracranial pressure and subcapsular cataract. Corticosteroids generally may mask outward signs of bacterial or viral infections. Catabolic effects to watch for include muscle weakness and osteoporosis. Weight loss may occur early in treatment but is usually self-limiting.

Contraindications. While the only absolute contraindications are tuberculosis and herpes simplex, there are some relative contraindications (peptic ulcer, glomerulonephritis, myasthenia gravis, osteoporosis, fresh intestinal anastomoses, diverticulitis, thrombophlebitis, psychic disturbance, pregnancy, infection) to weigh against expected benefits.

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References: 1. Levine, R.: Rationale for the Use of Adrenal Steroids, Paper presented at Annual Convention, Medical Society of the State of New York, New York, May 13-17, 1963. 2. Hollander, J. L.: Clinical Use of Dexamethasone. *JAMA 172*:306 (Jan. 23) 1960. 3. Boland, E. W.: Chemically Modified Adrenocortical Steroids. *JAMA 174*:831 (Oct. 15) 1960. 4. McGavack, T. H.: The Newer Synthetic Adrenocortical Steroids in Therapy. *Nebraska Med. J. 44*:377 (Aug.) 1959. 5. Freyberg, R. H.: Berntsen, C. A., Jr., and Hellman, L.: Further Experiences with Δ1, 9 Alpha Fluoro, 16 Alpha Hydroxyhydrocortisone (Triamcinolone) in Treatment of Patients with Rheumatoid Arthritis. *Arthritis Rheum. 1*:215 (June) 1958. 6. Cahn, M. M. and Levy, E. J.: Triamcinolone in the Treatment of Dermatoses. *Amer. Practit. 10*:993 (June) 1959. 7. AMA Council on Drugs: New and Nonofficial Drugs. *JAMA 169*:255 (Jan. 17) 1959. 8. McGavack, T. H.; Kao, K.-Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: Clinical Experiences with Triamcinolone in Elderly Men. *Amer. J. Med. Sci. 236*:720 (Dec.) 1958. 9. Fernandez-Herlihy, L.: III. Use and Abuse of Corticosteroid Therapy—The Structure and Biologic Activity of the Corticosteroid Hormones and ACTH, *Med. Clin. N. Amer. 44*:509 (Mar.) 1960. 10. McGavack, T. H.: Triamcinolone: A Potent Anti-inflammatory Sodium Excreting Adrenosteroid. *Clin. Med. 6*:997 (June) 1959.

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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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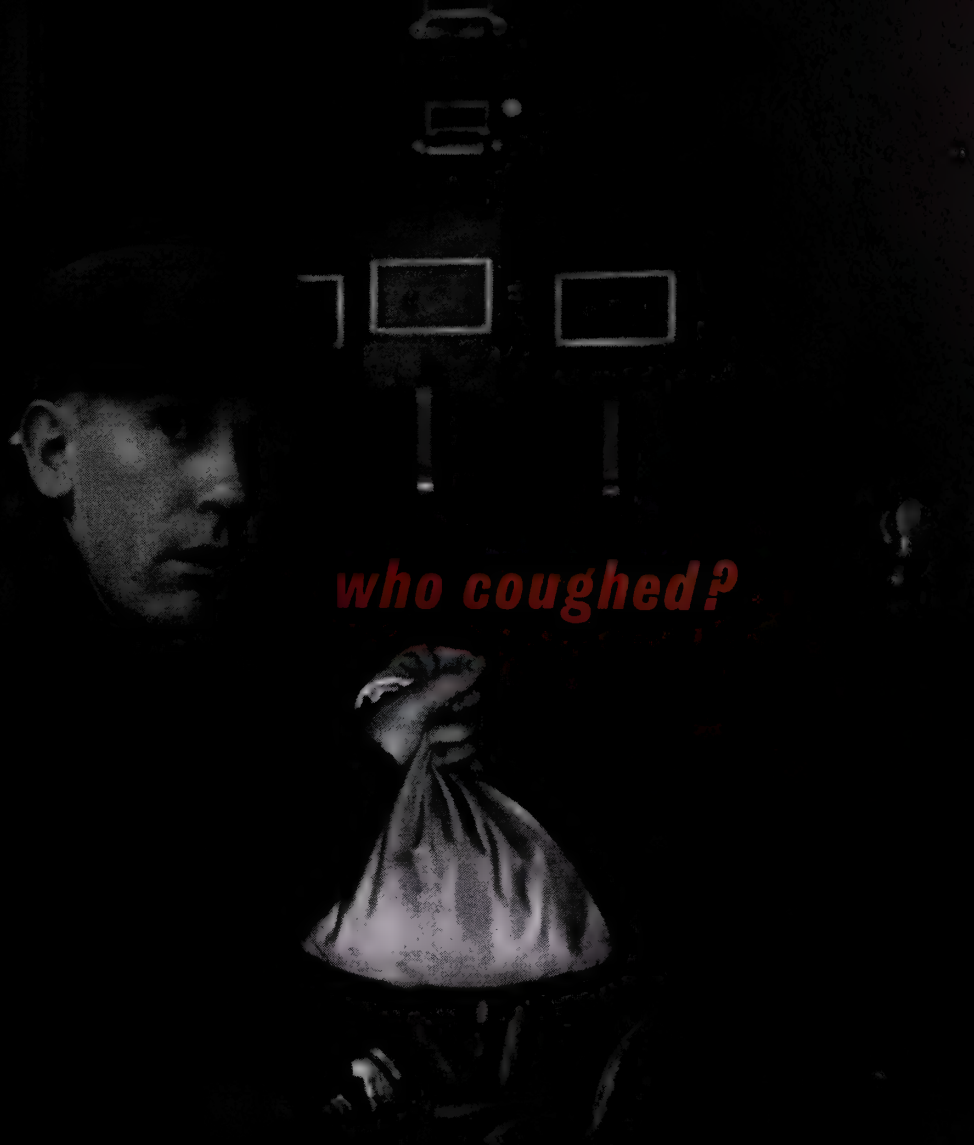
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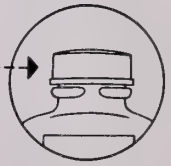
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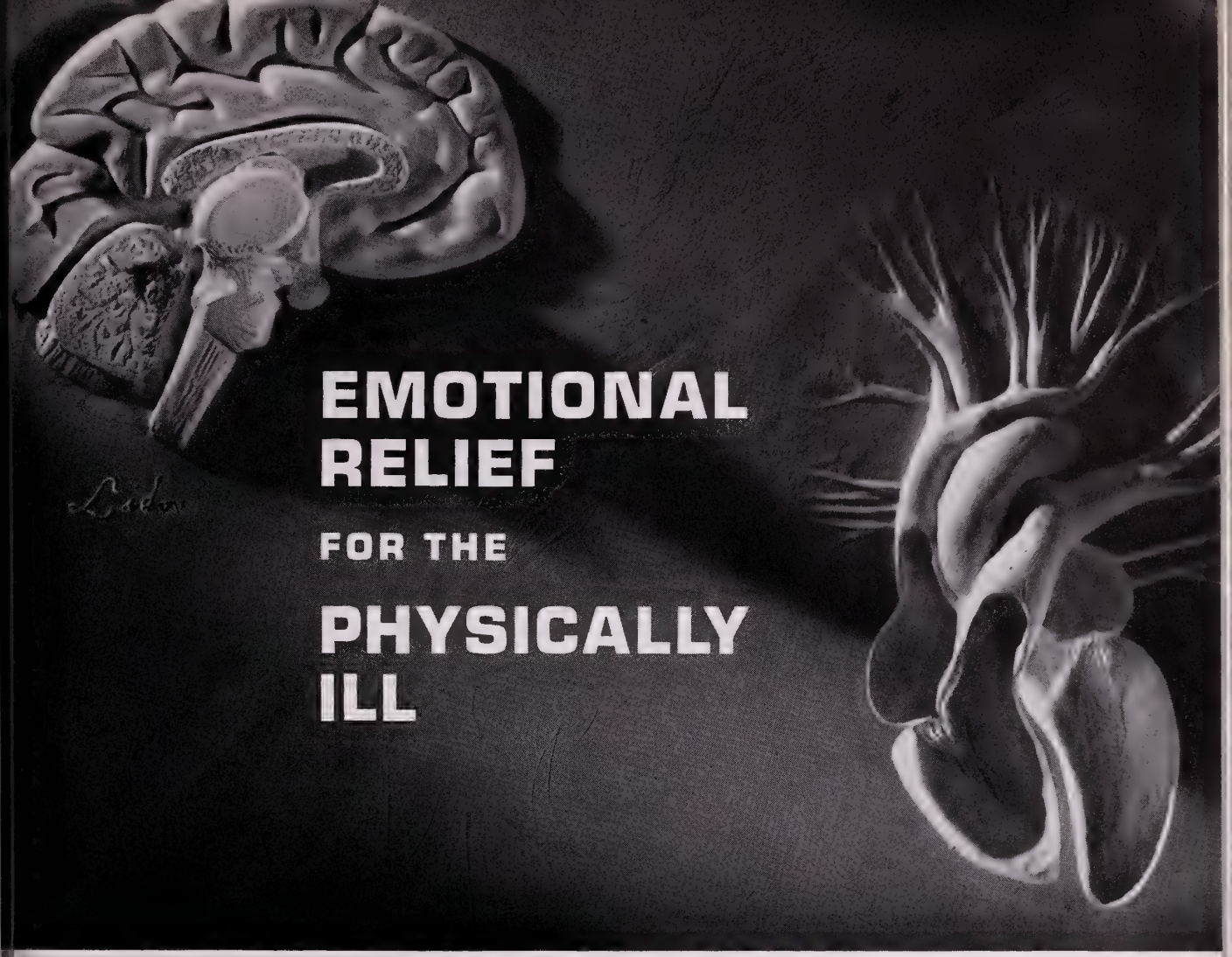
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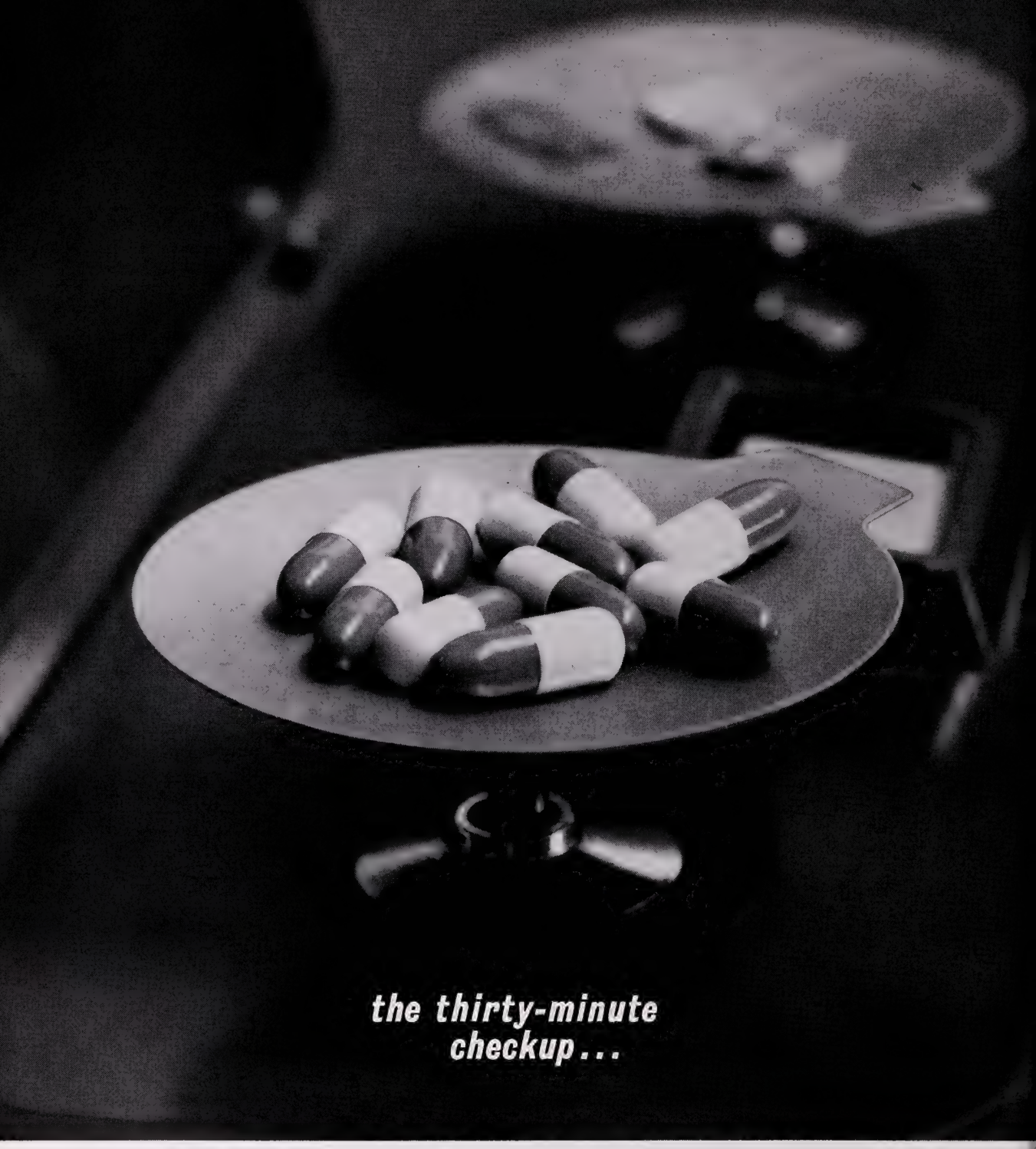
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CESAREAN SECTION IN THE COUNTRY

By

Robert H. Hayes, M.D.

Winner, South Dakota

Francois Rousset, in 1581, wrote the first classic description of the Cesarean section procedure and advocated its use not only post mortem but during life. He was also the first to utilize the combined phrase "Cesarean section."

In 1500, Jacob Nufer, a swine-gelder in Switzerland, performed the first truly successful Cesarean section upon a living woman — his wife. This represented a beginning of placing an operation in its proper place in modern surgical obstetric practice — truly a long way from a procedure which prior to this time had been shrouded with the magic of mythology, nurtured in superstition, and was practiced only upon dead women. The improvement of surgical training, the advent of the use of antibiotics, the development and use of anesthesia, the modern usage of blood, together with the advances in antepartum care and widespread knowledge of obstetrics, have all contributed to the current success of the modern Cesarean section. Its application and its value have helped reduce mortality rates for mother and infant to an all time low. But how widespread is the knowledge and how well can it be applied? Do doctors in rural areas utilize Cesarean section methods successfully? The answer is YES! ! !

Five years ago we reported a small series of Cesarean sections and compared it with series of larger hospitals to see if elective Cesarean section was feasible in small rural hospitals. We now report another five years of the study.

The Cesarean sections reported cover from 1957 through 1961. They represent cases of nine (9) different physicians in three (3) small community hospitals of less than thirty (30) beds in rural South Dakota. Some are elective repeat Cesarean sections and others are for indications listed. Total deliveries were 2107 with 51 Cesarean sections to give a rate of 2.4%. This compares favorably with the national average which as can be seen from Table ♯1 is from 0.7% to 8.8%. For the ten year period our total deliveries would be 5618 with 121 Cesarean sections to yield a 2.0% rate.

The trend of utilization of Cesarean section is definitely increased. It is reported by our British colleagues that "with improved techniques and anesthetics and the modern developments in antibiotics and blood transfusions Cesarean sections should be no more dangerous than laparotomy." There probably are some who feel that eventually all women will be delivered by Cesarean section. Hesseltine and Freese in a study of elective prelabor Cesarean section under the most favorable conditions as compared with vaginal deliveries showed a neonatal loss twice as high as the recorded data for full term live

INCIDENCE OF CESAREAN SECTION

TABLE ♯ I

INSTITUTION	DELIVERIES	CESAREAN SECTION	PERIOD OF TIME COVERED	CESAREAN SECTION RATE
Rotunda Hospital Dublin, Ireland	277,110	3098	1889-1957	1.1%
Hartford Hospital Hartford, Connecticut	25,815	2285	1954-1958	8.8%
Beth-El Hospital Brooklyn, New York	75,018	2370	1928-1957	3.16%
Louisville General Hospital Louisville, Kentucky	16,593	343	1954-1959	2.0%
The California Hospital Los Angeles, California	4,643	343	1958-1960	7.3%
Margaret Hague Maternity Hospital Jersey City, New Jersey	200,000	7000	1948-1960	3.5%
King County Hospital Seattle, Washington	10,634	227	1943-1956	2.1%
Chickasha Hospital Chickasha, Oklahoma	2,923	72	1949-1958	2.5%
Maynard Hospital Seattle, Washington	23,634	1278	1943-1956	5.8%
St. Elizabeth Hospital Youngstown, Ohio	13,776	472	1954-1959	3.4%
Grady Memorial Hospital Atlanta, Georgia	27,972	197	1948-1953	0.7%
Burke Memorial Hospital Burke, South Dakota Gregory Community Hospital Gregory, South Dakota Baptist Hospital Winner, South Dakota	5,618	114	1950-1961	2.1%

births. A recent study by Maclennan gives the same approximate results. This indicates that which we were taught, that is, vaginal delivery offers the best chance for survival of the infant. Lawler reports that the average blood loss in Cesarean section is 1000cc. The mortality and morbidity are greater with abdominal delivery than with vaginal. Therefore, even though the extension of indications for Cesarean section might be justified, it can not be an innocuous procedure. Our rate of 2.0% for the period of 1957-1961 compared with a 1.9% rate for 1950-1956 would indicate that we feel that the performance of a Cesarean section involves a serious consideration on the part of the operating physician and that we do not consider it a method by which we would elect to deliver all of our patients.

INDICATIONS FOR SECTIONS

Controversy regarding the dictum, "once a Cesarean, always a Cesarean," is common. Indeed the extreme views on this subject vary, and in some areas repeat section is so taken for granted that no consultation note is required, while in others every attempt is made to deliver vaginally all patients who were previously delivered abdominally in whom a continuing indication does not exist. As a reader reviews the literature in the last twenty years he can note that the "once a section, always a section" dictum is attempting to be disproved by more and more groups of obstetricians.

Among the many writers who have attempted to disprove the old dictum are McLane, James, Kudor and Dotter, Duckering, Hindman, Herd, Schmitz and Baba, Cosgrove, Wilson, Browne, Lane and Reid, Lawrence, Winchester and Brown, and Fleming. On the other hand those who believe in repeat elective sections include Dieckmann, Lynch, Greenhill, Theobold, Thompson, Bak and Hayden, Bubalo, Morely, and Plass.

Upon comparison of these various articles it is seen that they are all agreed upon one thing — that all patients with a previous Cesarean section should be delivered in a hospital, with proper facilities to meet all emergencies, in all future pregnancies. This small series of Cesarean sections is in agreement with this practice and all Cesarean section surgery was done in a hospital. Since great thought must be given to the decision for Cesarean section on a patient for the first time it is interesting to note the indications in this series.

INDICATIONS FOR CESAREAN SECTION WINNER, GREGORY, AND BURKE, SOUTH DAKOTA

TABLE #2

INDICATION	Number of Cases
Repeat Cesarean section	27
Cepholopelvic disproportion	7
Placenta previa	4
Placenta abruptio	1
Prolapsed cord	2
Uterine inertia	2
Shoulder presentation	5
RHO incompatibility	1
Face presentation	1
Tubal ligation	1
Total	51

Of fifty-one (51) Cesarean sections reported, twenty-seven (27) were repeat elective Cesarean sections. The philosophy of "once a section, always a section" pervades thinking in our territory. Morely feels that ideal criteria for allowing a patient who has had a previous Cesarean section to deliver vaginally cannot be accomplished in more than 85% of the hospitals in this country that care for obstetric patients. He feels that wisdom, safety, and advisability of changing the philosophy around repeat elective Cesarean section is questionable. Certainly, our hospitals would fall into the category listed, and we agree that repeat elective Cesarean section be considered the treatment of choice for the patient who has had a previous Cesarean section.

Seven (7) prima gravidas were noted, one of whom had severe cerebrospastic disease with its resulting pelvic deformities. Two (2) of these patients had a trial labor. One (1) patient had an infant with a prolapsed cord and the shoulder presentation was associated.

The remaining case of cephelopelvic disproportion was one in which a gravida III para II was subjected to labor with no results and a Cesarean section was done for possible disproportion. The patient, it was discovered, had a huge fibroid in the lower uterine segment which obviously caused the inability to progress in labor.

Four (4) cases of placenta previa were noted. In contrast to the earlier five year series all placenta previas were described adequately in the operative notes.

Two (2) cases of prolapsed cord were noted. Cesarean sections were done not only for this reason but also because of the associated transverse presentation in both cases.

Five (5) cases of a Cesarean section for a transverse presentation are noted. Of some interest no low-segment Cesarean sections were done for this group of five women. In two of these, a lower uterine segment fibroid was noted and both were multiparous patients in the early 40's.

There were two (2) cases of uterine inertia reported. One 40 year old gravida V para IV was operated for uterine inertia after 10 hours of labor. The operative note read "lower pole fibroid, degenerative." Another 28 year old gravida III para II had labored for 19 hours and had had ruptured membranes for 24 hours. In retrospect it was felt that this patient probably should have had a resting period and then a Cesarean section if needed.

One (1) breech delivery was accomplished by Cesarean section in an elderly multipara in whose case a "premium baby" was at stake and the attending physician chose elective Cesarean section as a method of assuring himself a good result.

One (1) case of RHO incompatibility with a rising titer was surveyed. No attempt at induction was made because of the history of two previous RHO factor problem pregnancies. A good result was obtained for this mother.

One (1) case of placenta abruptio was studied. The infant was distressed as the fetal heart tones indicated prior to Cesarean section and expired some 12 hours after delivery. The mother had an uneventful post surgical course.

One (1) face presentation is recorded. Thirty (30) hours labor with twelve (12) hours of ruptured membranes is noted. Again it is felt that in retrospect a possible rest period perhaps would have been well indicated.

Also, one (1) case of Cesarean section for elective tubal ligation is recorded. In the review of the chart, no indication for tubal ligation is noted and, notwithstanding, Cesarean section for the same is a practice frowned upon by all but two of us apparently.

TYPES OF SECTIONS

Only two (2) types of Cesarean sections were noted in this series — classic and lower segment type. In this later five year series it is interesting to note that the lower segment type section is being done. In each instance it was a primary section and a transverse incision (or blunt muscle separating maneuver) was utilized. Forty-six (46) classical and five (5) lower segment Cesarean sections were noted.

The long discussions and difference of opinion among physicians regarding the type of section to be done is finally being settled in favor of those who propose the lower segment operation. However, when one reads all of the excellent papers which deal with this aspect it is refreshing to read one written by Falls. This would certainly indicate the reason for success in our small hospitals in the country, 187 miles from the nearest specially trained obstetricians. For, as Falls points out, the procedure with which the operator is the most familiar will give him the best results.. However, those of us in the country cannot ignore facts which are available such as the rupture of a uterus through a classical Cesarean section scar is approximately 2-4%, and that rupture through a lower segment Cesarean section scar occurs in only 0.25%. In addition 50% of ruptures through the classic scar occur prior to onset of labor whereas those through a lower segment type occur more often when the patient is in active labor but is frequently an incomplete type of rupture. Morely states that the maternal mortality associated with classical Cesarean section scar rupture is 2-3% and the fetal loss 50-70%, as compared with a maternal mortality rate of 7% in the lower segment Cesarean section scar. In this light certainly none of us can consider not doing lower segment type Cesarean sections except in some instances. Haynes and Clemmons suggest that the classical type Cesarean section be reserved for patients in whom some technical impairment such as broad ligament varicosities or transverse presentation exists. In fact, they offer a most practical bit of advice. They utilized a "T"-shaped incision on nine (9) patients. This consisted of transverse low cervical incision extended vertically in

the midline. These 9 incisions were utilized for the delivery of infants from the transverse presentation, because it had become apparent during the extraction that the lower uterine segment incision was about to tear laterally into the large para-uterine vessels. Waters and Hall believe that a maternal death due to post-Cesarean scar rupture should be an obstetric rarity. In an experience totaling near 200,000 births and 7,000 Cesarean sections, nearly one-third of them repeat sections, there were no deaths from uterine rupture. Certainly, incidence of rupture of the uterus is a rare entity (see Table ‡3) but it is the duty of the doctor in rural areas as well as in metropolitan areas to practice in a fashion such that uterine ruptures will not occur.

REPORTED INCIDENCE OF RUPTURE OF UTERUS*

TABLE ‡3

HOSPITAL	PERIOD	AUTHORS	NO. OF RUPTURES	NO. OF DELIVERIES	INCIDENCE OF RUPTURE
New York Lying-In	1906-1926	Davis	106	91,208	1:860
Philadelphia County	1931-1941	Duggen	105	318,103	1:3029
Charity, New Orleans	1913-1950	Beachman & Beachman	96	127,522	1:1328
New York**	1932-1946	Brierton	57	111,953	1:1901
Johns Hopkins	1900-1945	Delfs & Eastman	53	53,574	1:1010
University of Maryland and Baltimore City	1920-1943	Morrison & Douglas	45	65,916	1:1465
Boston City	1920-1945	Lynch	44	41,706	1:1118
Cook County	1928-1948	Fitzgerald & Webster	42	92,226	1:2196
Los Angeles County	1923-1934	McNeile & McBurney	30	17,350	1:578
Boston Lying-In	1918-1934	Sheldon, Bill, Barney and Melody	23	63,391	1:2756
University of Cleveland O.P.D. Western Reserve	1925-1941	Parker	22	35,253	1:1602
Medical College of Virginia	1932-1949	Jones	—	—	—
Pennsylvania	1929-1952	Garnet	21	51,186	1:2627
Medical College of Virginia	1932-1956	Ware, Parkson, & Reda	40	70,837	1:1771
Boston Lying-In	1935-1955	Ferguson & Reid	84	101,108	1:234
Harlem	1949-1957	Posner, Santos, & Posner	26	33,128	1:1274
Jewish of Brooklyn	1933-1954	Pedowitz & Perrell	52	89,616	1:1723
Kings County (Brooklyn)	1944-1954	Pedowitz & Perrell	35	41,613	1:1189
Margaret Hague	1931-1948	Donnally	39	101,127	1:2593
Margaret Hague	1948-1960	Waters & Hall	50	104,320	1:2086

*Waters, E. G. and Hall, W. H., **Obst. & Gynec.,** Vol. 20, No. 5, pp 586, Nov. 1962.
**Combined experience of five hospitals.

ANESTHESIA FOR CESAREAN SECTIONS

Studies of anesthesia for Cesarean section have been conducted now to a degree that one has a great deal of reading to do in order to be acquainted with the methods and techniques. Just as anesthesia for vaginal delivery has changed, anesthesia for Cesarean section also has changed. Emphasis has been placed upon the role of anesthesia in perinatal morbidity and mortality. Lund concluded that the overall mortality was slightly higher with general anesthesia than with conduction anesthesia. Reports from various clinics indicate a preference for conduction anesthesia for Cesarean section. In a classic study Virginia Apgar, et al. observed greater depression of infants following the administration of cyclopropane than when a regional anesthesia was used.[4] Barter et al. performed 1441 (92%) of their 1563 Cesarean sections under pentothal, ethylene, and oxygen anesthesia. They reported the average time for spontaneous respirations in the infant to be 102 seconds. Bannister classified depression according to the time necessary to resuscitate an infant before it exhibits the normal response by lusty crying and good tonus:

Depression	Normal Response
None	Within 1 minute
Mild	Within 1-3 minutes
Moderate	Within 3-5 minutes
Severe	Delayed more than 5 minutes

Klein reported a series of 567 Cesarean sections (6.1% of series) for which general anesthesia was utilized. The anesthesia most frequently used consisted of pentothal sodium with cyclopropane and a muscle relaxant. Under this form of anesthesia 271 (45%) of the babies were depressed to some degree as compared with 107 (29%) of the 368 infants delivered with spinal anesthesia. He points out that one of the important things is the relationship of stress factors to depression incidence. Even with the use of spinal anesthesia, the percentage of depressed babies in the presence of stress (29%) was more than twice that of the non-stress group (13%), (see table ♯4). Certainly, the direction to proceed in the choice of anesthesia is a difficult one for the doctor in the country.

RELATION BETWEEN ANESTHESIA AND RESPIRATORY DEPRESSION OF NEWBORN ACCORDING TO INDICATION FOR SECTION*

TABLE ♯4

	ANESTHESIA					
	INHALATION			SPINAL		
		Depressed			Depressed	
Condition	Total	No.	%	Total	No.	%
Stress	597	271	45.4	368	107	29.1
Nonstress	911	258	28.3	342	45	13.0
Totals	1508	529	35.1	710	152	21.4

*Klein, J., **Obst. & Gynec.,** Vol. 20: 164, 1962.

This difficulty is reflected in our series in that 37 patients had a general anesthesia administered to them, 6 had spinal anesthesia, and 8 had a combination of spinal anesthesia and general anesthesia after delivery of infant. No local infiltration anesthesia was employed. Depression of the infant by the above Bannister criteria or the Apgar criteria was not noted but depression by any criterion was not observed in any of the 51 cases. Anesthesia was administered by the registered nurse anesthetist or by the physician (in the case of spinal anesthesia) and was followed by the nurse anesthetist. Cyclopropane and oxygen with pentothal induction were utilized. Use of muscle relaxants was not employed for Cesarean section. In one case ether, ethylene and oxygen were utilized. The choice by patients has been, by far, general anesthesia, and this has been reflected in this last five year series. Pontocaine was used as the primary agent for all spinal anesthesia. In one case of placenta previa spinal anesthesia was utilized but without fatal results to mother or baby!!! In one (1) case of inertia, a 20 day hospitalization followed general anesthesia with a diagnosis of post operative atelectasis. It is felt that general anesthesia is the anesthesia of choice if the baby is a mature infant and if all criteria for general anesthesia are fulfilled. Obviously an emergent situation would nullify all other anesthetic prerequisites and this principle was followed in this series. However, no utilization of local infiltration analgesia was

utilized chiefly because the skill of making this possible for most patients was not a working tool of any of our physicians.

PREMEDICATION FOR CESAREAN SECTION

In this series 39 patients received atropine (mgs 0.2), one (1) received atropine (mgs 0.2) and sparine (25 mgs), five (5) received scopolamine (0.2 mgs), five (5) received demerol (50 mgs), phenergan (25 mgs), and atropine (0.2 mgs), and one (1) patient received no premedication. In this group of five (5) who received a combination of demerol, phenergan, and atropine, there were no depressed babies. Although the number is not mathematically significant it is pointed out as a matter of interest. It is felt that scopolamine could be used to greater advantage because of its amnesia production, but the possibility of the so-called "scopolamine agitation syndrome" probably deterred its more frequent usage.

MORBIDITY AND ANTIBIOTICS

Morbidity is defined as the development of an oral temperature of 100.4 F. or higher during 2 or more of the 24 hours period after delivery, exclusive of the first 24 hours, temperatures being taken every 4 hours. As Bryant says this has been of major interest to Obstetricians for 25 years. "In none of our hospitals are temperatures routinely taken this often so no claim for scientific accuracy is made for the morbidity figures which follow." On the basis of the frequency and accuracy with which the temperatures were taken in this series, two (2) of the patients were morbid — percentage of 3.0%. No Negro patients were seen in this series. Bryant's figures from the Cincinnati area on morbidity in Negro and White patients is of some interest to us since we deal with a good many American Indian patients who occasionally will have some Negro blood intermingled (Seventh cavalry influence 80 years ago.) His conclusion that Negroes develop significant fever after Cesarean section more often than Whites could not be projected to the American Indian race, since we had an insignificant number in our series. (See Table ♯5) The two patients were both multiparous and both had had attempted delivery from below. One had had ruptured membranes for 2 days, transverse presentation, prolapsed cord, and a dead baby, and developed a uterine wall infection

RACE AND MORBIDITY*

TABLE ♯5

TYPE OF CASE	MORBIDITY (%) White Patients	Negro Patients
Elective sections	6.5	25
All sections	12	33
All sections, private hospitals	12	29
All sections, charity hospitals	25	34

* Bryant, Richard D., **Am. J. Obst. & Gynec.,** Vol. 81, No. 3, pp 483, 1961.

which was noted at time of Cesarean section. The other had a trial labor of 12 hours with ruptured membranes and at surgery was noted to have a fibroid in the lower segment of the uterus. She developed an atelectasis and pneumonia following general anesthesia probably on the basis of aspiration following general anesthesia since the nurse's notes on the chart recorded clear liquids by mouth being given 2 hours before surgery.

It is felt that a discussion of morbidity should not end with such a narrow definition since conditions such as paralytic ileus, hypersensitivity reactions, phlebitis, since some abscesses produce sickness and discomfort more than pain following a Cesarean section and are certainly worthy of discussion. Perhaps a listing of these patients developing a post partum fever might encompass our idea of morbidity more adequately. In this event nine (9) patients developed a post partum fever — 17%. This still does not adequately cover the subject which might better be listed as "complications." One patient developed paralytic ileus, another developed an allergic purpura, and still another a contact dermatitis to Merthiolate. One patient developed a prolonged and elevated blood pressure following spinal anesthesia. Of some interest, the record revealed that this patient had received intravenous ergotrate during the course of the spinal anesthesia. We feel that somehow this type of complication must be reported under morbidity since these things did make the patient more morbid than Cesarean section alone would have.

Twenty-one (21) patients received antibiotics — twelve (12) received them prophylactically and nine (9) therapeutically. Those antibiotics utilized were: penicillin, penicillin and streptomycin combinations, tetracyclines, and chloramphenicol. One hypersensitivity reaction to penicillin was noted.

Twelve (12) patients received blood from a walking blood bank system. Two (2) patients received blood of "O" type to which "Witebsky substances" had been added. (Electively given.) All other blood was type specific, was cross matched, and was given as fresh whole blood. No transfusion reactions were noted.

In all of these hospitals early ambulation is practiced. There was one incidence of thrombophlebitis. Elastic bandages are not used routinely as a preventative measure. No patient received anticoagulant therapy.

LENGTH OF HOSPITAL STAY

The longest hospital stay for Cesarean section was twenty (20) days, and the shortest two (2) days. The average was 7.8 days. No comparison figures are available but it is felt that 7.8 days hospitalization for Cesarean section is not out of reason and would be comparable to a national average.

CONSULTATION

The need for this in small hospitals is obvious, but amazingly enough is often not demanded. In all but three (3) of this series, consultation was gained. This was not always in the formal written form but a note of the consultant being called is on the hospital chart. Large hospitals have no problem in this area but smaller hospitals can have if it is not insisted upon from the first Cesarean section performed in that particular hospital.

In this series of fifty-one (51) Cesarean sections with delivery of 51 infants, the fetal loss was 5 to yield a fetal loss of 9%. Three (3) of these infants were stillborns. None of these were prematures under 1500 gms, one was macerated with gross congenital anomalies, and one was a "stress baby." The so-called "stress baby" followed a placenta abruptio case who entered the hospital in shock and with fetal heart tones of less than 100 per minute. This baby died 12 hours after delivery. Since a hemorrhagic condition existed general anesthesia was used for Cesarean section rather than spinal anesthesia. If one were to use all of the correction factors and remove stillbirths, prematures under 1500 gms, macerated and anomalous fetuses from the series, the corrected rate would be 3.9%.

It is felt that here general anesthesia probably was contributing to this infant's death and, if it had been advisable to use spinal, a good result would have been obtained. Again a satisfactory procedure would have been local infiltration analgesia. The other case of infant death was one who had died 54 hours after delivery. This case was one in which a 40 year old multiparous patient with a transverse presentation was also anesthetized with general anesthesia. This possibly had some connection since no post partum examination was allowed and it had to be assumed that depression could have been responsible although the infant cried spontaneously.

CONCLUSIONS FROM THE ABOVE SECOND FIVE YEAR SERIES COMPARED WITH THE FIRST ONE AS FOLLOWS

1.) Better reporting of facts in the records of small hospitals was accomplished.

2.) The need for true obstetric consultation is still felt and yet the record shows that this is forthcoming. Some attempt was made and improvement can be expected.

3.) The anesthesia problem is being solved although physicians in smaller hospitals, we feel, must develop a local infiltration technique to salvage "stress babies" in which general anesthesia, when indicated for a maternal indication for Cesarean section, would jeopardize an already distressed baby. Our utilization of nurse anesthetists in our small hospitals has improved our anesthesia, and refresher courses for these people are of great benefit.

4.) The use of low segment type Cesarean section is already being utilized in this series and as newer young men enter our medical community this will assist in any future problem of possible uterine ruptures with possible maternal mortality and infant mortality.

5.) We feel that the infant mortality rate (3%) is too high and we believe that utilization of local infiltration analgesia techniques in selected stress cases will assist in elimination of this problem. At the present it is still the one reason that one might say that elective repeat Cesarean section is not an ob-

stetrically feasible procedure in the small rural hospitals.

SUMMARY

The modern Cesarean section operation is successfully utilized by the physicians at the perimeter of the last medical frontier — the isolated, rural areas of the United States. By small hospitals in rural areas constantly striving to improve their facilities and taking steps to make their methods as near like those of large hospitals, Cesarean section in these hospitals is an obstetrically feasible procedure. We feel that application of the modern Cesarean section operation has helped reduce mortality rate for mother and baby in our territory—which is truly isolated.

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EDITOR'S NOTE: Due to space limitation, the remaining references have been omitted. However, they are on file in the Journal office and may be obtained by writing to the Assistant Editor, 711 North Lake Avenue, Sioux Falls, South Dakota.

SIOUX VALLEY MEDICAL ASSOCIATION TENTATIVE PROGRAM

February 19, 20, 21, 1964, Hotel Cataract, Sioux Falls, S. D.

February 19, Evening, Smoker and Hospitality Hour.

February 20, A.M., Clinic at Sioux Valley Hospital.

February 20, P.M., Symposium.

February 21, A.M. & P.M., Symposium.

Symposium

Cytotoxins — Nature and Use. Northwestern University group.*

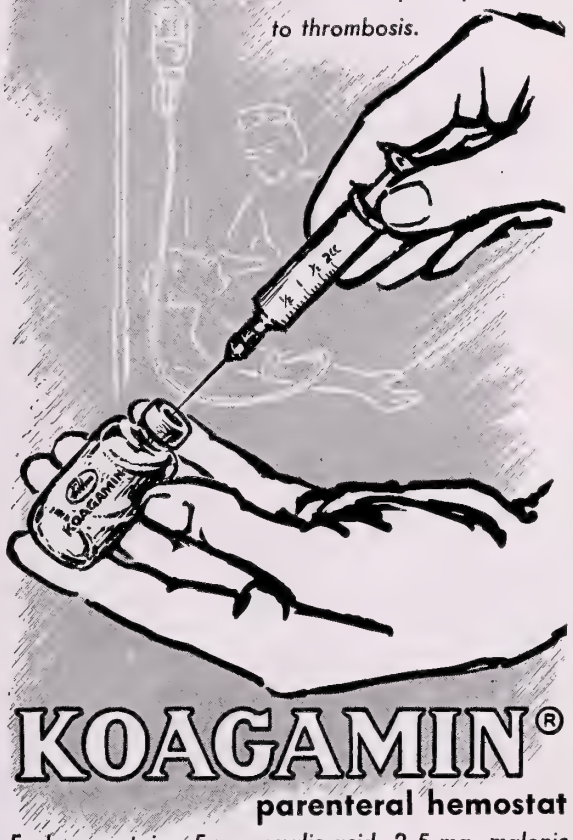
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MENTAL RETARDATION

PART I

Definition – Recognition – Management–Prevention*

by

E. H. HEINRICHS, M.D.**

Watertown, South Dakota

* This paper was presented at a Workshop on Mental Retardation, sponsored by the Division of Nursing, South Dakota State College, and the Division of Public Health Nursing, South Dakota State Department of Health, in Brookings, South Dakota, on the 19th day of June 1962.

**Pediatric Department, Bartron Clinic, Watertown, South Dakota.

To cure sometimes;
To relieve often;
To comfort always.

Mental retardation has recently been recognized as one of the major health problems for the years ahead. A 27-member Presidential Panel, headed by Dr. Leonard W. Mayo of New York City has made more than a hundred specific proposals, calling for the expenditure of approximately $30 million a year from governmental and private sources.[1] It is therefore timely to review this subject in the light of recent investigations.

This article consists of two parts: the first dealing with the definition, recognition, management and prevention of mental retardation; the second dealing with the known causes of mental retardation.

The Definition of Mental Retardation

Diagnostically, categorizing individuals of low intellectual functioning is not an easy task. One has only to survey briefly the existing literature before encountering a wide variety of terminology and at times conflicting definitions.

SARASON[2] makes a distinction between "mental retardation" and "mental deficiency." He states that mental retardation refers to individuals who, for temporary or long-standing reasons, function intellectually below the average of their peer groups. The social adequacy of the mentally retarded individual is not in question, but if it were in

question there is the likelihood that the individual could learn to function independently and adequately in the community. On the other hand, he states that the term mental deficiency refers to individuals who are socially inadequate as a result of an intellectual defect which is a reflection of an impairment of the central nervous system which is essentially incurable. SARASON further points out . . . "whereas the mentally retarded may require temporary, specialized assistance, the mentally defective will always require it."

The American Psychiatric Association Diagnostic and Statistical Manual[3] defines as mental deficiency those cases which present first of all a defect of intelligence existing since birth, without demonstrated organic brain disease or known prenatal cause. (For other definitions, see YANNET,[4] SODDY[5] and ALEXANDER).

In view of the difficulties encountered in the definitions of low intellectual functioning, the author will, for the present article, define mental retardation to include those individuals with demonstratable, low intellectual functioning arising from either organic defects or environmental influences without regard for the level of functioning.

Two additional factors which should be considered at this time are a related and integral part of the problem of defining mental retardation. Both factors have to do with earlier attempts to simplify the problem through a rather concrete classification of degrees of mental retardation. Although the aim is desirable, it has caused some complications. For example, the long-used sub-classifications of mental deficiency, which are still used in much of the writing today, are "idiot," "imbecile," and "moron." This terminology in its day was meaningful and did communicate. It is unfortunate therefore that these terms have derogatory connotations in present usage; i.e., the "little moron jokes" which have been so popular in recent years. If we are to work more effectively in the treatment of mental retardation, a more modern and positive terminology should be utilized to help to gain for the mentally retarded an acceptance from the general public.

The second and probably more objectionable aspect of subclassifying mental retardation in the past has been the tendency to relate these specific subclassifications to specific I.Q. ranges. In talking about individuals of low intellectual functioning GARRISON points out that caution should be exercised against classifying any individuals as specific types. He states that "individual differences on intelligence tests are continuous in nature — there being no significant point of demarcation that sets one group off as being distinctly different." He points out that classifications should not be considered too rigidly and states that "absolute classification is an impossibility since there is a great variety of abilities and talents as well as a large group of borderline cases all of which are difficult to classify."

GARRISON typifies more recent thinking on the whole concept of intellectual functioning and this is fairly well summarized in the American Psychiatric Association Diagnostic and Statistical Manual[3] which classifies the degree of intellectual defect as mild, moderate or severe. Although this manual loosely represents levels of retardation by I.Q. ranges, it hastens to point out that "the degree of defect is estimated from other factors than merely psychological test scores; mainly, consideration of physical, cultural and emotional determinants as well as school, vocational and social effectiveness." It is important to emphasize that mental deficiency is not a disease but rather a symptom and that it is not only caused by an organic defect but can also be the result of social or an environmental interference.

From the above, it would appear then, that the prime importance of an intellectual evaluation is not the obtained specific I.Q. score. Intelligence is not easily or directly measurable. It is not the result of a single mental process. It is a complex of many abilities including abstract thinking, visual and auditory memory, causal reasoning (deduction), verbal expression, manipulative capacities, spatial comprehension and probably many others. GOODENOUGH points out that "the number of allegedly different abilities in personality characteristics is certainly well in excess of a hundred." In view of the above deemphasis of specific I.Q. scores it might be well then to stress the need for a comprehensive intellectual evaluation of mentally retarded children. Since each person is an in-

TABLE I

I.Q.	TERMINOLOGY	CHARACTERISTICS
100 91-109	Normal	
90-76	Dull Normal (Mildly deficient)	
75-51	Educable (High grade mentally deficient) (Moron)	Level of 7-12 year old child (5-6 grade). Can read and write. Able to do simple factory work. Frequently runs afoul of the law.
50-21	Trainable (Mild grade mentally deficient) (Imbecile)	Level of 3-7 year old child. Talks little, must work under close supervision, no understanding of value of money. Should not be allowed to live outside of family or institution.
20-0	Untrainable (Low grade mentally deficient) (Idiot)	Level of a 2 year old child. May never learn to say simple words, to sit or to dress. Does not avoid common dangers.

dividual it is important to remember that various aspects of intellectual functioning differ from individual to individual. Special attention should be given not only to areas of weakness in the patient but also to his strength in order that the best possible planning can be made for him. To classify is not enough. Active treatment planning should be made so that each individual will be able to utilize fully those strengths and capabilities which he does possess.

The terminology of mental retardation is briefly presented in Table I. It should be pointed out that the newer designations: dull-normal, educable, trainable and untrainable, describe far better the abilities of the patient and therefore should be preferred, especially in presentation to lay people. Again it should be emphasized that the I.Q. ranges associated with the various classifications should not be adhered to rigidly since many other factors do influence the level of functioning for any given individual.

The Recognition of Mental Retardation

To recognize the early signs of mental retardation one must be familiar with the normal mental development of a child and its normal range of variation. Several excellent presentations are available on this subject. As an example, the child usually learns to walk when he is about a year old, but he may walk as early as 8 months or as late as 18 months without being considered abnormal. Since a handicapped child may very well progress normally in other areas, the developmental milestones are grouped into motoric, play, sensory and speech, and adaptive social development in order to cover all possible areas. It is necessary to test all spheres of mental development in the young, since deviations from the normal are very minute and not easily detectable.

Unless the child shows severe physical defects at birth which are combined with mental retardation (as in Mongolism, 18-Trisomy Syndrome or central nervous system abnormalities, etc.) the mother will usually report to her physician that she thinks her child is developing slowly. If such fears are brought up they should be investigated thoroughly, since early diagnosis is the most important factor in possible treatment. Never should such inquiries be brushed off with remarks such as: "He will outgrow it," etc. Since a child is an extension of the parents' self, the parents are usually slow to recognize a retarded development. This is especially true if it is a first child or if their own intellectual level is low. Thus valuable time may be lost.

In order to encourage the mother to follow the development of her child, several methods can easily be incorporated into the routine Well Baby visits.

1) Passing out developmental charts on the first Well Baby visit. The mother is asked to record weight and height on these charts. These grids have incorporated mental and motoric milestones and are prepared for boys or for girls.*
2) Having literature available on the subject of child development in the waiting room for the mother to take home, such as: "The Phenomena of Early Development" which covers the development up to two years of age.*
3) Asking the mother at the end of each visit for any unusual observation or occurrence in order to give her opportunity to voice any fears she might have. Experience shows that often the most important questions are asked as the mother is on the way out, her hand on the door, and announced with, "By the way, Doctor . . ."

But the all important factor in the recognition of mental retardation is the thorough physical examination at each Well Baby visit. A child who has a motoric retardation, who does not smile at 6 weeks, or who does not follow light at 10 weeks, is to be suspected of having a mental defect.

A recent study shows that mentally retarded infants have a higher threshold of pain. They are usually quieter and when stimulated the time lapse before the cry is longer than in a normal child. The crying pattern is then erratic and spasmodic. A simple stimulator has been developed which always delivers stimulations of equal force.

When a physician diagnoses a mentally retarded child, he should take an active rather than a passive attitude. The recognition of the symptom "Mental Retardation" is not the end, but the beginning of the diagnosis. Unfortunately this is not always the case and a survey has shown that 48% of the families were critical of their physician for this reason.

If the parents have not yet realized their problem, it seems advisable to begin necessary diagnostic procedures and answer questions when they are asked, slowly breaking the news to the parents. To face them boldly with the facts is cruel and usually the parents then withdraw from their physician and lose medical help just at a time when it is needed most.

If the parents are aware of their problem, then one should proceed as follows:

1) Avoid the term "mental retardation" in the discussion with the parents. Use terms such as "slow development" or "intellectual inadequacy."
2) Take a positive attitude towards the problem. (Do not ask "What is he?" — tell what he is!) Advise the parents, give counsel, explain diagnostic procedures and the management and estimate the degree of retardation. The degree of disability can rarely be accurately predicted before the age of ten. Do not be pessimistic unless there is a severe retardation present.
3) Start a comprehensive evaluation of the physical, psychological and emotional factors. This is best done with the cooperation of a team consisting of a pediatrician, neurologist, EENT specialist, psychiatrist, psychologist, social worker and appropriate school authorities. The parents must know that everything is being done, that they are receiving as much help as possible and that they are being told the truth.
4) Repair all physical defects and defects of special senses: provide glasses, hearing aids, speech therapy, necessary operations, etc.
5) When the child is three years of age, arrange for psychological evaluation including social, educational and vocational factors, not only an I.Q. It is important to assess strengths as well as weaknesses. The family, too, needs psychological and psychiatric appraisal, including an estimation of their insight and a survey of economic factors.
6) Develop a plan for the management of the patient's life and especially arrange for care if the parents are unable to act.

It appears that this big task is best undertaken in Child Development Clinics, since it requires a diagnostic and evaluational ap-

* Available without charge from Ross Laboratories, Columbus, Ohio.

paratus which is not readily available to the private practitioner. Since the economics of such programs easily exceed the means of a family, the federal and state governments underwrite the cost of such clinics. In these centers a team of all specialists involved digests the available material and plans the management.

The Management of Mental Retardation

It is impossible to give a scheme of management for mentally retarded children. Each child must be evaluated and managed individually but some important points of a general nature can be outlined here.

One has to realize that there is presently no means of restoring impaired intellectual levels or to increase the intelligence of a child. Only preservation and training of the remnants are possible. Our aim is to train a child as far as his mental capacities will carry him in order that he become as self-supporting and independent as possible. This training begins as soon as the mental retardation has been diagnosed. It includes, at first, training by his parents in the development of discipline and intelligent self-control. Loving encouragement is better than sympathy and pity. This can be achieved by focusing the attention on the child, showing pleasure with his achievements, making him feel a part of the family, giving him freedom to grow in realistic expectation of things within his capacity. Punishment is acceptable if the child understands why he is being punished.

Ordinarily placement in institutions should be done just before school age if it appears necessary. The old question of home rearing vs. institutionalization has not yet been settled, but usually a normal family or an adequate foster home provides a better emotional background. The presence of a mentally retarded child is not necessarily destructive to the family, especially after the first shock is overcome, if the foundations of the family are sound. Family life provides resources for the welfare of the mentally retarded child.

However, if parents of low intelligence are not able to provide the proper training for the child, especially in the first and most important years, and if good foster homes cannot be found, institutionalization is the best solution. If the child is severely malformed early separation is also advisable. On the other hand it is cruel to a young mother, just after it has been revealed that she has a mongoloid child, to suggest that the child be placed in an institution before she has tried to solve this problem on her own. Our modern urban and suburban society is definitely ill-equipped to cope with the problem of a mentally retarded child, but this is not a reason for shunting him off to an institution. Many mongoloids and other educable children are living in every community, are happy and able to do minor chores around the house and farm, under supervision.

But there are also definite conditions apart from those already stated under which institutionalization is the best solution:

1) If the child presents a serious behaviour problem or personality disorder which does not respond to outpatient therapy.
2) If there is an adverse reaction by his normal siblings to the severely retarded.
3) If the child belongs to the rare group of custodial patients and his care is an undue burden upon the family.

When the child reaches school age, special problems arise: the mentally retarded child will feel for the first time the impact of society and its usually hostile reactions. This can be minimized if communities of sufficient size can arrange for special classes, schools or day-care centers, for the mentally retarded and handicapped, to train them in the basic requirements of life. It is amazing what a good and specially trained teacher can do for these children. Because it is unnecessary to separate such children into sub-groups with regard to a physical handicap, such classes can provide an economical means of developing whatever capacity for learning is present in the individual child. Working with mentally retarded children in classes of this kind offers a tremendously stimulating challenge to the dedicated teacher. If this training for geographic reasons has to be given in institutions, these patients could return later to family and community, representing a gain.

After the school training, sheltered workshops, foster homes, day-care centers, educational, recreational and guidance services should continue the work and provide at least partially for these patients. Here is a real opportunity for rehabilitation in rescuing

these children from emotional exile and normal siblings from emotional and physical deprivation.

The active support of the Association for Mentally Retarded Children can help, directly and indirectly, parents who need emotional help. Frequently they retreat from life because of guilt feelings, confusion, unconfessed shame, sense of being trapped by life, hysteria and desire for death of the child.

The medical care has to be continued after the diagnosis of mental retardation has been made. Drugs such as antihistamines, phenothiazines and ataraxics can decrease the often accompanying hyperactivity and thus improve the educability of the child. Despite many, but mostly harmless side effects, chlorpromazine, promazine and especially trifluoperazine have often given improvement or control of symptoms. Glutamic acid has not been found to be of any value. Surgery, braces, and other modern equipment can ease the physical handicap of the mentally retarded child.

Above all, the earlier the treatment starts the better is the outlook for successful training. The best time to begin is 1½ to 7 years of age, after the age of ten no gain in intelligence can be expected.

The Prevention of Mental Retardation

The prevention of mental retardation leads us into a very controversial field which is not only medical, but also philosophic, religious and political. It is a fact that the mentally retarded part of our population is increasing faster than the total population. It is also documented that many of the known causes of mental retardation are hereditary. Based on this it appears mandatory to advise practical eugenics for the society of tomorrow.

Intermarriage between blood-related individuals should be reduced further. Premarital examinations beyond the required blood test, and genetic counseling should be encouraged and recommended to young couples planning to get married. Family investigations of known mentally retarded patients should be conducted. Prevention of marriage of persons with a known dominant hereditary disease or sterilization on a voluntary or compulsory basis (as provided by law in South Dakota) can help to reduce the number of children born with mentally disabling diseases. One step on the way is the fullest investigation of every mentally retarded patient, to help him, to help his family and the society, in order to prevent tragedies.

With advanced medical knowledge it is now possible to recognize carrier states of certain diseases (as phenylketonuria and galactosemia) and it should be ascertained that these patients do not marry mates who are carriers of the same disease.

Certain causes of mental retardation are fully or partially preventable and are decreasing due to improvement of the obstetric and pediatric care such as anoxia at birth and irradiation during pregnancy. Kernicterus has been virtually unknown for several years.

Thorough examination in the neonatal period can reveal many treatable diseases (as phenylketonuria, cretinism and galactosemia) and save many children. Research will reveal the presently unknown cause of many more diseases which lead to mental retardation, thus clearing the way for treatment and prevention.

The presentation would be incomplete if some statistical material were not presented:

Approximately 3% of the population of the United States are mentally retarded, presently 5.4 million, with an expected increase of one million by 1970. More than one-half of these patients will be under 9 years of age at that time.

South Dakota has about 20,000 mentally retarded persons. 1,117 patients (about 5.6% of the total) are cared for at the Redfield State Hospital and School. Approximately 150,000 (2.8% of the total) mentally retarded are institutionalized in the United States, requiring one out of four beds in State Hospitals. For every 1000 people in our population there are 30 mentally retarded, of whom 25 are educable patients, 4 are trainable and one custodial. Mental retardation cripples six times as many patients as poliomyelitis, ten times as many as diabetes, twenty times as many as tuberculosis, and twenty-five times as many as muscular dystrophy.

SUMMARY

A presentation has been given of the definition, recognition, management and prevention of mental retardation. It has been emphasized that mental retardation is a major health problem now and in the future,

one which requires help from all possible sources.

The author is indebted to Dr. A. A. Wylie, Chief Psychologist of the Lake Region Mental Health Center, Watertown, South Dakota, for his assistance.

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Editor's Note: Due to limitation of space, the remaining references have been omitted. However, they are on file in the Journal office. Anyone wishing a list of the references is asked to contact the Journal office, 711 North Lake Avenue, Sioux Falls, South Dakota.

MINUTES
COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION AND HOSPITALS

Medical School Vermillion, S. D. Oct. 12, 1963

The meeting was called to order by Chairman Willcockson at 10:30 a.m. Present for roll call, in addition to **Dr. Willcockson,** were **Doctors T. J. Wrage, Warren Jones, R. Curtis Jahraus, E. T. Lietzke;** and staff members John C. Foster and Richard C. Erickson.

On motion duly made and seconded it was agreed to dispense with the reading of the minutes of the previous meeting inasmuch as they had been published.

The committee then discussed the purposes of the committee, the functions that it had assigned to it, following which they discussed the upcoming survey of the medical school which was to be done by outside authorities.

Dean Walter Hard appeared as a guest of the committee, and discussed the Federal Medical School Assistance Law and the possibilities of future expansion of the school.

Dr. Jahraus moved that a letter be sent to the Governor on behalf of the Committee, discussing the building expansion and the utilization of available federal funds. The motion was seconded by Dr. Wrage, and the vote, which was asked to be recorded, was Wrage, Jones, Jahraus, Lietzke, voting Aye; and Willcockson voting No.

A discussion was then held on setting up medical audits for small hospitals and the executive secretary was asked to make a list of hospitals having fewer than 25 beds, and those who have more than 25 beds but have not been subject to audit by the Commission on Accreditation.

A decision was made to hold the next meeting of the Committee on the evening prior to the January meeting of the Council of the State Medical Association.

On motion duly made, seconded, and carried the committee adjourned at 12:15 p.m.

CLINICAL REVIEWS

A program of lectures and discussions on problems of general interest in medicine and surgery.

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and

March 23, 24 and 25

1964

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Staff members of the Mayo Clinic and the Mayo Foundation for Medical Education and Research will present again this year a three-day program of lectures and discussions on problems of current interest in general medicine and surgery.

The American Academy of General Practice and the College of General Practice of Canada have advised the Committee on Clinical Reviews that Category I credit may be obtained by members of the American Academy of General Practice or the College of General Practice of Canada attending.

The registration fee for this program is $10.

The number of physicians who can be accommodated is necessarily limited. For this reason identical programs will be offered two successive weeks. The program will be presented first on March 16, 17 and 18 and repeated on March 23, 24 and 25. Those wishing to attend should communicate with M. G. Brataas, Mayo Clinic, Rochester, Minnesota, indicating which session they would prefer to attend.



FEES, FEES, FEES, FEES

The question "what constitutes an equitable recompense for services rendered?" has plagued physicians since the times of the Pharaohs. In the past there was no unanimity of thought as to what represents a "fair fee." Recompense for a medical service has ranged from a small pittance to more than three quarters of a million dollars.

With the advance of civilization has come increasing restriction, regimentation and regulation of the practices of physicians. Recently there has been increasing professional, social and governmental pressure toward conformity in training physicians, methods of practice and finally in fees. With the advent of "insurance medicine," even greater coercion is being put upon each physician to comply with fee schedules which limit his charges. Needless to say, this trend has created considerable resentment.

In an effort to assist individual patients finance their own medical care to circumvent state medicine, the various Blue Shield programs were started. When the original plan of Blue Shield proved inadequate in South Dakota, supplementary plans were developed. Under these plans fee schedules for compensation to the physicians were formulated and have been revised as needed. In the revisions of fee schedules, it has been attempted to as nearly as possible recompense each physician his usual fee for service. The fees for the lower income plan schedules are based upon a pre-determined proportion of the physician's "usual fee." These fee schedules have worked quite well in most instances but there have been circumstances in which one or more of the parties involved have not been satisfied. Although there have been some, infrequent, instances of quite evident gouging, most of the problems which have arisen revolved about misunderstandings between individual physicians, patients and the Blue Shield.

Occasionally concerning disputed claims with the Blue Shield of South Dakota, physicians have become quite distraught, implying that the claims are settled by file clerks in an undemocratic manner. Such is farthest from the truth. Each statement to the Blue Shield is handled as an individual and difficult ones screened by the medical director. When there is controversy, the claim is reviewed carefully, critically and impartially by a committee of physicians, all members of the South Dakota State Medical Association. The men who compose this committee act in an advisory capacity only to the Blue Shield Board in settling fee disputes. They represent all fields of medicine; all attempt to show impartiality and fairness of judgment.

When there arises an instance in which a physician's claim from this or another state seems unusual, deviating from the established pattern of fees, the matter is investigated by correspondence with the physician in question. It is also attempted to determine from other sources what represents a fair

fee in other contiguous and distant areas of the United States. In all instances it is attempted to be scrupulously fair to the physician who has submitted the bill and to determine whether there may be extenuating circumstances which might adequately justify the fee which is over and above the average. The objective of the committee is not to set fees but to try to ascertain that the stated fee is fair to all concerned. This includes the patient, the physician and the South Dakota Blue Shield, the latter being an instrument of the physicians of the state.

A fact which is not generally known by the physicians of the state is that the claims review committee serves the physicians in more ways than settling individual fee disputes. In instances involving the State Welfare Department, Medicare or other governmental agencies, often the first question asked is "What does your fee claims committee have to say about the matter?" When there is dispute between these organizations and a physician, the opinion of the committee pro or con often decides whether an unusual fee is acceptable. Although it might be questioned whether the fee advisory group may become dictatorial, any physician who feels that his claim has not been arbitrated fairly may appear before the committee in person or by representation to present his case. If, after thorough investigation of all factors involved, it is established that his unusual claim is fair and just, it is recommended to be allowed.

Although the recommendations of any medical claims advisory committee can never win a popularity contest with all who may be involved, over a period of time such an organization can and will preserve the democratic approach to problems involved in settling problems of "fair fees" for services. Whether physicians as individuals receive the compensation which they believe is commensurate with their services in the future depends largely upon the ability of each to reconcile his thinking to the fact that there are now well established boundaries to determine relative and absolute values for medical professional services.

—J. B. Gregg, M.D.

ANNUAL CLINICAL CONFERENCE

Chicago Medical Society

March 2, 3, 4 and 5, 1964

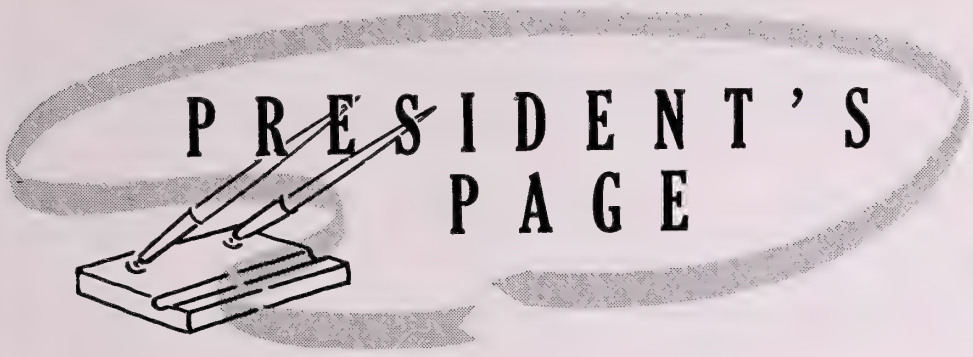
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Dear Fellow Members:

I am certain that doctors, just as the rest of our citizens, were shocked to hear the news that President Kennedy had been assassinated. Although the great percentage of doctors that I know disagreed with the late President's policies, I have not talked to one who felt anything but true sorrow for this young man who was struck down without a chance to so much as dodge the assassin's bullet.

In the hysterical four days that followed, much was said that only the future fifty years will bear out to be truth or untruth. I, personally, feel that President Kennedy was made a martyr by an assassin's bullet, not because he had accomplished great good as the President of the United States. Be this as it is, the sinister thing that showed itself in this tragic event was the awesome power of the Television to which we were all exposed for four days.

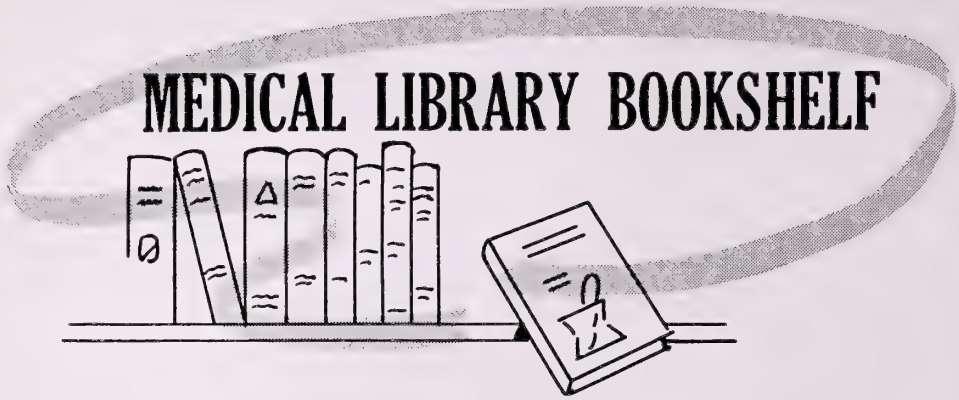
There were those of us who suspected how powerful this could be but no one, I think, was fully aware of its terrific potential. I am certain that no one can doubt how the medium of television convicted Lee Oswald, before he ever had a chance to be tried by due process of law. If there were any citizens of our Country who did not agree with President Kennedy certainly no one would have been able to get TV time to express their views. In fact, in the face of the brainwashing the public received by the nation's TV cameras, I doubt if any citizen would have had the personal courage to even state any dissenting views.

The worry that any of us have who believe in the Constitution of the United States, and in the great Country in which we live, is how can we control such a communication medium as Television? I, for one, feel that an already too powerful F.C.C. must not have this power to control American thinking. It appears that the challenge can not be met by the Television people themselves who are controlled by the F.C.C. The answer lies in ourselves and in our ability to turn that switch to "off", in ourselves to start reading, and in ourselves to start thinking, formulating opinions, deciding courses of action, and then following those courses of action.

I fervently hope that if I have something to sell that I can get the TV people to assist me for I realize that if I cannot I have a slim chance of selling it. In conclusion, since we have seen the awesome power of television after President Kennedy's death, it seems to me that we must personally convince every television news commentator of the great good which we physicians are attempting to do, that we are interested in our Country's health problems, that we do have the highest level of medicine man has ever known, and that we as good Americans, are also concerned with our Nation and its problems whether they be medical or not — and especially if the problems are medical ones.

Fraternally,

Robert H. Hayes, M.D.



PROBLEMS RAISED FOR THE FDA BY THE OCCURRENCE OF THALIDOMIDE EMBRYOPATHY IN GERMANY 1960-1961*

by

Frances O. Kelsey, Ph.D., M.D.**

The first Pure Food and Drug Act passed in 1906 provided no recognition of the investigational use of drugs. The law did not require pretesting of a drug on either animals or human subjects before it was distributed in interstate commerce. The onus was on the Government to prove an article unsafe before it could be removed from the market. The weakness of this law was apparent in the 1937 "elixir of sulfanilamide" tragedy. A pharmaceutical firm decided to distribute a fluid preparation of the then new drug sulfanilamide. The drug was insoluble in alcohol or water, and diethylene glycol was used as a solvent by the manufacturer without adequate toxicologic tests to establish its safety. As a result of the kidney damage produced by this compound over a hundred people died and many were made seriously ill.

This tragedy influenced the passage of the Food, Drug, and Cosmetic Act in 1938 after years of legislative hearings, and the inclusion of the new drug section. The revised version required that before a new drug could be distributed in interstate commerce the sponsor of the drug must submit information to the Food and Drug Administration to establish the safety of the drug for the proposed clinical use or uses. This information, submitted as a New Drug Application or NDA, consisted of details concerning the quality control of the compound, animal studies undertaken to establish its acute and chronic toxicity and pharmacological effects, and clinical studies designed to demonstrate its safety. Under the implementary regulations, a new drug could however be distributed for investigational purposes prior to the submission of an NDA provided that the preparation was labeled clearly as an investigational drug, that the investigators signed a statement to the effect that they had facilities to test the drug and that the drug would be tested under their supervision only, and that accurate records of the distribution of the investigational drug would be kept by the firm. There was no requirement that the Government be notified that the drug was under investigation or that an investigation was discontinued when this occurred.

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*Presented at the 91st Annual Meeting of the American Public Health Association, Kansas City, Missouri, November 14, 1963.

**Chief, Investigational Drug Branch, Division of New Drugs, Bureau of Medicine, Food and Drug Administration, Department of Health, Education, and Welfare.

The New Drug Application for thalidomide was presented in September 1960. The drug had been marketed in Germany since 1957 where it was available without prescription, and in Great Britain since 1958. However, it was felt that the evidence submitted in the application was not adequate to indicate the safety of the drug. In particular, although this drug appeared to be remarkably nontoxic in animals and human beings, little or no information was available concerning its absorption, distribution in the body, or its excretion. Since the possibility existed that the low toxicity of the drug in certain species might be related to poor absorption in those species, and that under certain conditions the absorption in other species might be increased, further work was requested relative to the metabolism of the drug. While this was being done, a report in the **British Medical Journal** of December 31, 1960, drew attention to a possible side effect of prolonged use of thalidomide, namely polyneuritis. Further information concerning this report was requested and it was learned that in reality the occurrence of this side effect was already well established in Germany and England. Indeed, the British preparation of thalidomide had carried a warning for some 6 months, although this information was not given to the Food and Drug Administration. Additionally, the suggestion was made that possibly a dietary defect was associated with thalidomide ingestion in these cases. Support for this hypothesis was offered by the fact that many of the victims were elderly female patients with poor dietary habits and by an apparent pattern in the geographical distribution of the cases reported.

Following the establishment of polyneuritis as a side effect of prolonged thalidomide ingestion, we felt that if the drug were taken during pregnancy the developing fetus might be exposed to the drug as long as 9 months, and might be susceptible to harmful effects because of its rapid growth and imperfect enzyme systems. The information we had concerning the use of the drug during pregnancy was confined to a study of the use of the drug in treating insomnia in approximately 100 patients in the last trimester of pregnancy. In the absence of more comprehensive data, we felt the new drug application for thalidomide should not be approved unless it was made clear in the physician's brochure that the safety of the drug in pregnancy had not been established. However, by the end of November 1961 word was received from Germany of the possible association of this drug with phocomelia and the application became inactive.

It is of interest to note that by May 1961, when our reservations concerning the safety of thalidomide in pregnancy were first expressed, attention had already been drawn in Germany to the sudden alarming increase of congenital limb deformities and searching inquiries were underway to determine their cause. These endeavors culminated in November 1961 when Dr. Lenz made known his suspicion that thalidomide was the cause of the deformities, and McBride in Australia independently reached this same conclusion.

While the teratogenic effect of thalidomide has attracted a great deal of attention, the neuropathy caused by the drug has been comparatively neglected. Not all patients who received thalidomide for prolonged periods developed neuropathy, the usual figure cited being 1 in 250. However, it has not been established whether there are differences in the metabolism of the drug that might explain the individual differences nor has it been determined that polyneuritis and the phocomelia are related phenomena. Vitamin B preparations have been recommended for the treatment of the neuropathy but the value of such therapy has not been conclusively established. The similarity of the teratogenic effects produced by thalidomide and those produced in animals by diets deficient in the Vitamin B-Complex has led to the suggestion that the drug may act as an anti-metabolite. Even before the teratogenic effect of thalidomide was recognized, Duraiswami had reported that isoniazid, another drug known to cause neuropathy in human subjects, causes fetal anomalies in the chick embryo and an abnormally high incidence of stillbirths among the offspring of albino rats and mice treated with the drug during gestation.

While the thalidomide episode has undoubtedly stimulated research in the field of teratology, it should be pointed out that when the thalidomide application was under study

there was developing an increasing interest in the effects of the drugs and other environmental hazards on the human fetus and newborn all of which contributed to our caution in evaluating the application. This subject had previously been somewhat neglected despite the rather extensive animal studies undertaken in this field by such investigators as Werkany, Ingalls, and Fraser. However, in 1940, Gregg recognized the adverse effect of the virus of German measles on the human fetus and the teratogenic effect of aminopterin was described by Thiersch in 1952, while in 1958 Wilkins described the occurrence of non-adrenal pseudohermaphroditism in female infants born of mothers who received synthetic progestine during gestation.

Additionally, evidence was accumulating to indicate that the fetus and the newborn infant often behave so differently toward certain drugs as to warrant consideration as separate categories of the human species. Again these findings gained support from animal studies. Thus, while I was working with the antimalarial drugs research program at the University of Chicago in 1943, we found that while the liver of the adult rabbit metabolized quinine rapidly due to the presence of an enzyme, quinine oxidase, the fetal rabbit liver had little or no quinine oxidase activity. Later, both Fouts and Brodie showed that the newborn of guinea pigs, mice, and rabbits lack oxidative drug enzymes, and suggested that these findings might explain some of the difficulties encountered in administering drugs to newborn infants. The susceptibility of the newborn infants, particularly premature infants, to chloramphenicol first reported by Sutherland in 1959 has been recognized as being due to the fact that certain liver functions including the ability to form glucuronides are immature in newborn infants. The resultant high blood level of chloramphenicol leads to circulatory collapse. Again, some drugs compete with bilirubin for the inadequate hepatic enzymes so that their administration may result in higher levels of indirect bilirubin leading to jaundice and increased risk of kernicterus while yet others displace bilirubin bound to plasma proteins, thus increasing the blood level of the more freely diffusible form.

In the face of mounting evidence that the pharmacologic response of the immature human may differ, both quantitatively and qualitatively, from that of the adult, the Committee on Fetus and Newborn of the American Academy of Pediatrics issued a statement in October 1961, before the thalidomide-phocomelia relationship was published, pointing out that tests on mature animals and human adults or older children are unsatisfactory criteria for recommendations concerning the fetus and infant. The committee recommended that "existing drugs and agents as well as agents that are developed in the future for use in the fetus and infants must be subjected to much more extensive preclinical investigations than is being carried out at this time," and suggested that the pharmacological properties of drugs should be studied in vitro and in vivo in the fetus and newborn animal and compared with those in the adult of the same animal species. It was further recommended that where no pharmacological studies of the drug in immature subjects had been performed, a statement of this fact should be included in the labeling. This statement is in accord with our approach at the Food and Drug Administration. The present policy is to require that before a drug is tested in women of the child-bearing age a screening test in pregnant animals be done. Furthermore, if the drug is to be used in infants, acute toxicity studies must be run on newborn rats. Recommendations for the pediatric use of the drug must be substantiated by adequate clinical studies to establish the safety and effectiveness of the drug in the appropriate age group or groups.

The thalidomide incident was a major factor leading to the enactment of the Kefauver-Harris Amendments of 1962. This has led to the conclusion by some that the law, and our investigational drug regulations, were hastily drawn and thus must have been poorly drawn. This is not correct. The Department's proposed legislation, which served as the basis for most of the provisions in the law as enacted which relate to drug testing, was very carefully drafted by experts and widely studied within the Executive Branch of the Government before it was sent to the Congress by our Secretary. Similarly the proposed investigational drug regulations were

carefully prepared on the basis of many years of experience with the new drug law before the thalidomide situation came to public attention. Rapid developments in drug research and in promotional methods for drugs necessitated evaluation of the effectiveness of new drugs as well as their safety. Furthermore, the need for greater control and surveillance over the distribution and clinical testing of investigational drugs became apparent as abuses began to appear. The intent of the new procedures is to protect the public and the clinical investigator by ensuring that adequate preclinical studies are done on the drug before the investigator is asked to do human studies.

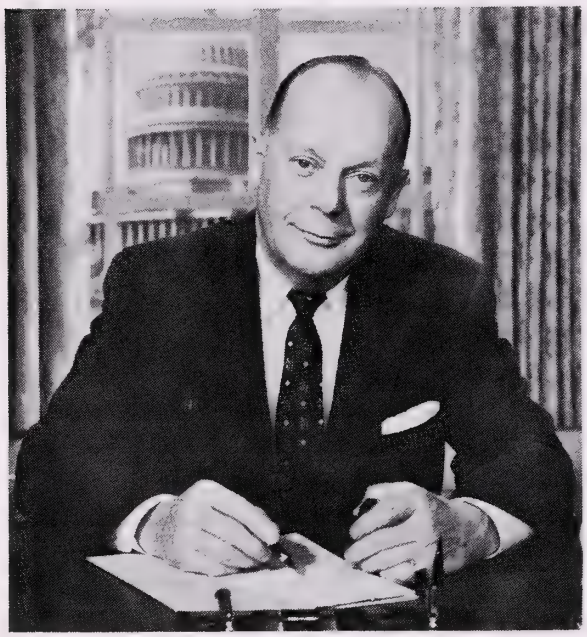
It has been said that there is currently absolutely nothing which would prevent repetition of the thalidomide tragedy. This is simply not true. While teratogenic effects cannot be produced in all species or strains of animals with thalidomide, a number of investigators have produced anomalies using rabbits, a species frequently used in studies of this type. Furthermore, with the rat reproduction test recommended by the Food and Drug Administration, there is a significant reduction in litter size due to fetal reabsorption and skeletal deformities commonly occur in the survivors. This procedure involves feeding subtoxic doses of the drug under test to male and female rats for a preliminary period of 6 weeks and through two pregnancies. It is designed to detect not only teratogenic effects, but also adverse effects on spermatogenesis, fertilization or implantation or on the welfare of the fetus or newborn.

Additionally, objectively designed clinical studies should have detected both the neuropathy and the embryopathy long before these side effects caused such widespread damage. The clinical studies submitted in support of the application for thalidomide in this country did not record either side effect. Retrospective inquiries however disclosed several cases of both neuropathy and phocomelia that had not been reported, the investigators having considered the effects to be unrelated to the drug under test. While it is not known exactly what percent of mothers taking the drug during the critical period of pregnancy did give birth to deformed babies, the figure generally cited is 20 percent. Such a high incidence would have been readily determined by properly designed clinical studies. Assuming the "normal" incidence of recognizable birth defects to be 5 percent, an increase to 20 percent could be detected with a reasonable degree of significance by exposing less than 100 pregnant women to this drug.

In conclusion, not all toxic reactions can be anticipated by animal experiments or are manifested in clinical tests of a drug before it is released for general distribution. However, the Food and Drug Administration has an adverse reaction reporting program with approximately 450 cooperating reporting sources, and recently the American Medical Association has expanded its drug reaction reporting system to include all drugs rather than those associated with blood dyscrasias as in the past. Additionally, the 1963 Kefauver-Harris Amendments require that pharmaceutical firms report at regular intervals to the Food and Drug Administration all adverse effects associated with their new drugs. These measures will help detect the rare reactions not revealed even by well-planned clinical studies.

The success of programs currently in use for reporting drug reactions, however, depends for the most part on the ability of the individual physician to recognize drug reactions and his willingness to report these to a coordinating agency where they can be evaluated in a fair and impartial manner and appropriate measures taken. An additional safeguard would be the establishment of a national or international adverse reaction program based on a register of medical case histories which would permit an independent observer to detect correlations between drug intake and toxicity that might elude the individual clinical investigator or attending physician. Certainly it should not take many thousands of deformed children to establish the degree of hazard that is associated with thalidomide. It would indeed add inestimably to the tragedy of the thalidomide episode if we shut our eyes to the fact that it could have been largely averted.

ECONOMICS



KARL E. MUNDT, U. S. S.

STATEMENT OF SENATOR KARL E. MUNDT TO HOUSE WAYS AND MEANS COMMITTEE ON KING BILL (HR 3920)

Ed. Note: South Dakota's senior senator Karl E. Mundt appeared before the House Ways and Means Committee to document the situation of provision of medical care to the aged in South Dakota. The statement is printed in its entirety as it was distributed to the press and appears in the Committee reports.

My primary purpose in testifying today is to call to the attention of the Ways and Means Committee barriers and obstacles which have been placed in the path of implementing the Kerr-Mills program, Public Law 86-778, in my State of South Dakota and in other areas as well. I think your contemplation of this situation is vital because of the testimony that will likely be presented during these hearings that Kerr-Mills has not met the problem of providing medical assistance to the older citizens of this country who have need for such assistance. I am convinced that when full implementation of Kerr-Mills is completed and each of the several states has had the experience of several years of administering and improving their programs with the full and vigorous assistance of the Department of Health, Education and Welfare, which agency is charged with the execution of the Act, then and only then can the final determination of success or failure be applied. Any such judgment before that time, is highly premature.

South Dakota's legislature began studying the possibility of implementing the Federal law in its 1961 session only a few months after the enactment of the Federal Act. The legislature initiated a study through its Legislative Research Council to determine the need and scope for the program in the state. This cautious approach proved particularly valid because of experiences in other predominantly rural states which initiated extensive programs only to face difficulty later in working out scope and financial support.

I was pleased to cooperate with the South Dakota legislature in 1963 when they decided to adopt their rather unique approach in solving the problem of providing medical assistance to our elder citizens. The implementing legislation provided for a "pilot" program to determine within a short time, the number of needy persons, the extent of their need, and a more accurate determination of the cost of the full program. The State Department of Public Welfare was empowered to enter into a contract for the purchase of prepaid health coverage for eligible individuals. The law includes a provision

that their insurance carrier must operate without profit or loss. The prepayment aspect of the plan and the "pilot" program will curtail high administrative costs of this medical assistance plan. The state legislature acted on the belief that it is conforming with the Kerr-Mills Act, Public Law 86-778 as amended by Section 122 of Public Law 87-543.

The high regard I have for the Kerr-Mills approach in solving the problem brings me to the recent report of the Subcommittee on Health of the Elderly to the Senate Special Committee on Aging. Frankly, gentlemen, I am disturbed at what I consider the erroneous conclusions drawn by the majority in that report. For just a few minutes, I should like to dwell on several points in that report.

The Senate Special Committee report acknowledges and admits that the Department of H.E.W. should attempt to help in the successful implementation of Kerr-Mills program at the State level. In fact, on page 17, Section 3, it is stated, "The Department clearly has responsibility to assist the States in implementing the enabling legislation." It goes on to state, "All evidence available indicates that the Department has accepted and fulfilled that responsibility to the extent possible."

Gentlemen, it is my contention that this last statement **is inaccurate.** It is my intention to point out that **while the Congress clearly obligated the Department of H.E.W. in administering this public law, to provide constructive assistance to the States, the exact opposite was attempted in many instances by various members of Department staff.**

The Senate Committee report accuses the States of "distortion of Congressional intent" in some of the M.A.A. programs which have been implemented. I say the Department is guilty of failing to carry out Congressional intent by a **program of deliberate sabotage of an Act passed by this Congress and signed by the President.**

First, instead of disseminating helpful and constructive information to the public about this law, staff members of the Department have, on many occasions, made public statements and written articles in which the Kerr-Mills law was maligned, ridiculed, and described in half-truths and false generalities.

For instance, Donald Kent, Ph.D., of the Department staff made the following statements in a meeting in Springfield, Illinois, on April 7, 1962. "Kerr-Mills is just the same old relief program . . . . Relief is too expensive . . . . I believe we are facing the same tired old proposition that some people are more important than others and that we shouldn't worry too much about the less important ones."

On April 17, 1962, Mr. Ivan Nestingen, Undersecretary of the Department, told the Nashville, Tennessee, Sertoma Club that the Kerr-Mills program was not working; it could not do the job, but could only supplement the King bill. He said "90% of the funds being spent are being spent in the three states with smallest population."

In Madison, Wisconsin, on March 31, 1962, Mr. Wilbur Cohen stated at a meeting of the Wisconsin Committee on Health Insurance for the Aged Through Social Security "There is a great deal more to fear from the Kerr-Mills bill because by definition it is socialized medicine with a vengeance."

Mr. Phillip H. DesMarais, Deputy Assistant Secretary of H.E.W. addressed a group in Hartford, Connecticut, on March 26, 1962, and passed out literature which stated, "Kerr-Mills does not adequately take care of the near-needy or even many of the very needy."

"Means test medicine in many cases does not let you choose your own hospital and doctor."

"Means test medicine can mean danger to health and safety."

Mr. DesMarais also spoke to at least one other group on the same subject. That was in Chapel Hill, North Carolina, on April 13, 1962.

On March 19th, in Houston, Texas, Mr. Nicholas Zumas, Assistant Undersecretary, held a similar meeting.

In my own State, in Sioux Falls, South Dakota, a workshop conference was held on April 6, 1962, at which Mr. Dean Coston, Special Assistant to the Assistant Secretary was the featured speaker. The important feature of this meeting, which drew only about 30 people, was that it was open only to persons who opposed Kerr-Mills and supported King-Anderson. Although Mr. Coston was appearing at taxpayers' expense, the chairman of the conference stated in a letter

dated April 2, 1962, that no organization could send a representative unless the organization supported King-Anderson.

And on April 25, 1963, Mr. Ivan Nestingen spent approximately six or eight minutes of a twenty to twenty-five minute talk before the Chattanooga, Tennessee, Rotary Club deriding Kerr-Mills using such phrases as "administrative monstrosity" — "optical illusions" — "not a program which a great nation like ours can be proud of."

Gentlemen, in these stated instances, we have public servants, paid with public funds, traveling at public expense, going about the country trying to destroy public confidence in a law enacted by this Committee and the Congress. Not only do I question the legality of such use of government funds, but I believe they have deliberately distorted the intent of this Committee and this Congress.

Now, let me turn to more specific attempts by H.E.W. personnel to sabotage Kerr-Mills. This is at the State legislative level and one instance occurred in my neighboring state of Iowa.

Iowa has had enabling legislation for M.A.A. since 1961, but at the time the bill passed, no funds were appropriated. In 1963, a new bill was introduced in the legislature providing that those eligible for O.A.A. benefits would not be eligible for M.A.A. Before this bill could be acted upon, H.E.W. wired the Governor's office saying the provision to exclude O.A.A. recipients "is not acceptable."

Gentlemen, I call your attention again to the section of the Senate Special Committee report which accuses the States of "distortion of Congressional intent" by transferring O.A.A. recipients to M.A.A. How can the majority report of the Senate Committee condemn this practice and H.E.W. at the same time uphold it by refusing to accept an M.A.A. program which seeks to prevent the action? In fact, H.E.W. in a later telegram to the Iowa legislature again stated that approval could not be given to a program which denied assistance to persons because they had received O.A.A. benefits.

The story of H.E.W.'s contradictory statements to Iowa is a long one and many other examples such as the ones just mentioned can be documented for this Committee if it wishes. Suffice it to say that H.E.W. has not carried out its responsibility of assisting in the implementation of Kerr-Mills in Iowa.

This brings me to a similar set of circumstances in my own State.

The story of H.E.W. delay in South Dakota's case is most distressing. The plan submitted by the South Dakota Department of Public Welfare provided that the State would purchase insurance contracts for persons over age 65 who were eligible under the standards established by State law. The purpose of the insurance approach is to provide for eligible recipients a program most similar to what persons with greater income would secure for themselves. Public Law 86-778 provides for the insurance mechanism but it becomes obvious that the Department of Health, Education, and Welfare has been most reluctant to see it used.

Chronologically, the South Dakota story goes like this:

During both the 1961 and the 1963 legislative sessions, Mr. Alfred Poe, Kansas City Regional Office, H.E.W., met with State Welfare Department officials, legislators, and representatives of the vendors of health services. He was appraised of every draft of the bill, its amendments, and its final wording. On February 11th, he sat in on a joint meeting of the State Senate and House Committee on Health and Welfare, the Welfare Commission, and the Governor, and made statements to the effect that major changes would have to be made in the program before Federal approval would be forthcoming.* Under questioning by Governor Gubbrud, he admitted that there was actually nothing in the South Dakota law that would cause it to be turned down but there were questionable areas that would require elaboration.

The bill was signed into law March 11, 1963, and a plan submitted by the State Welfare Department to the regional H.E.W. office on June 10th. According to a statement made by the State Director of Public Welfare at a Welfare Commission meeting in Yankton, S. Dak., on August 29th, **the plan was mailed from Kansas City to Washington on June 17th.** On June 28th, a representative of the South Dakota State Medical Association was told at a meeting of H.E.W. personnel that

* Associated Press Dispatch, February 12, 1963.

the plan had not as yet been seen in Washington.

In August, a letter was transmitted from the Washington office of H.E.W. to Kansas City, indicating that the questions posed by Mr. Poe in his letter of transmittal of the plan to Washington should be answered before the plan was approved. The questions put to the South Dakota Department were basically the same points already discussed on the previous occasion. After the questions were answered by the State Department of Public Welfare in early September, no further word of plan approval or disapproval was evidenced by H.E.W.

On October 18th, a representative of the South Dakota State Medical Association and the State Director of Public Welfare met with H.E.W. officials in Washington at which time they were told that one more statement was needed from the South Dakota Attorney General before approval could be given. This information was secured and relayed to proper personnel in the **Bureau of Family Affairs, H.E.W., on October 24th, at which time the medical association representative was told that the plan would go to the Commissioner for decision without delay.** It seemed that this timetable would be followed when information was given to Congressman Ben Reifel on October 25th that the plan would receive a decision "this week."* On November 6th, Mr. Reifel's office was told that the material was in the hands of general counsel and would go to the Commissioner soon for a decision. To date, no decision has been made.

To the elderly in South Dakota who may have need of such a program, the Department of H.E.W. has withheld care for a period of six months which, in fact, will mean a longer delay because of the time involved in setting up the mechanics of the program after approval.

Can any other conclusion be reached than that the Department has been deliberately delaying approval because the program might well prove a workable design for the rest of the nation to emulate thereby weakening the argument for H.R. 3920?

* Associated Press story dated October 29, 1963.

ADMINISTRATIVE COSTS

I would also like to refer to a portion of the report of the Subcommittee that charges excessive administrative costs in the operation of some of the Kerr-Mills programs.

The point may be well taken that government administrative costs are high. This does not exclude Federal government administrative costs as contemplated in the Social Security approach. This is precisely the reason that the South Dakota legislature wanted the claims paying function, the statistical function, and liaison with the vendors of care maintained by non-governmental agencies trained and equipped to do such administration. The State Welfare Department's contract with Blue Cross and Blue Shield obtains the services of two organizations which have combined administrative costs in acting as fiscal agents for South Dakota's Old Age Assistance program of less than 3%.

It is my understanding that Kansas Blue Cross and Blue Shield offered to administer that state's O.A.A. and M.A.A. programs at ½ of 1%. This is a striking illustration of the need to give the South Dakota plan an opportunity to prove itself.

CONCLUSION

It has been said before this Committee and in countless other places that Kerr-Mills is not a perfect program for providing the nation's elderly with health care. I have attempted to show why. It is the victim of a planned program of interference on the part of the Department of H.E.W., King-Anderson supporters in the Congress, and welfare workers and officials at the state and county level. These people, many in places of immense power, have used every means at their disposal to discredit Kerr-Mills in the eyes of the public, to confuse states legislatures in their attempts to enact proper programs, and to demean potential recipients of M.A.A. benefits with meaningless red tape used under the guise of the means test. How could any program work perfectly with this kind of hamstringing at every turn?

Given a reasonable chance Kerr-Mills can and will develop into a mechanism which will answer the health care problem for every needy aged person in this country. But time must be allowed. Since the act was passed in 1960, only three years ago, 28 states and

3 other jurisdictions have implemented the Act and have it in operation. Ten other states have enacted laws which will become effective shortly or which are awaiting approval of the Department of Health, Education, and Welfare. Of the 12 states which have not passed cooperating legislation, five will meet in regular session early next year with the opportunity of acting. In the state of Texas, the electorate voted on the 9th of this month to remove Constitutional barriers so the legislature can act in its next session to implement Kerr-Mills in that state. As a matter of record, only three of the fifty states have done nothing at all. This is a highly enviable record when it is realized that since 1960 Congress has always had legislation pending which would establish the Social Security oriented program and the possibility has thus existed that any state medical assistance program with its committed state funds might quickly be superseded.

I urge the committee to consider this problem carefully before enacting a compulsory program of compulsory health insurance attached to the Social Security program. "Medicare" is a gross misnomer for this approach because it provides no medical care at all. It is simply a very inadequate and partial program of hospital insurance and certain other limited services and does not give the aged or the needy the kind of care that they require. The Kerr-Mills Act, on the other hand, recognizes that after retirement one may have a variety of ailments and so it provides for doctors and surgeons and hospitalization and nursing and drugs and dental benefits.

The reason Kerr-Mills can give a more adequate protection against a compulsory universal program is simple. This Medicare program, being compulsory, requires that it be available to everybody so it is available to the wealthy as well as to those who don't need it at all instead of limiting it to those people who require assistance at the time of an ailment in old age.

Another reason the compulsory medicare concept is wrong is that it does nothing whatsoever to protect the young family during its working years. It requires them to pay a tax sometimes as long as 45 years on the gamble that maybe after age 65 they will need some health benefits and on the improbable hope that nothing will happen to the family until that time.

In addition, past history assures us that Social Security taxes will continue to rise sharply. No one can foretell with any degree of accuracy the upper limits of that increase.

Originally, the Social Security tax was set at 1% each on the employer and the employee on the first $3,000 of annual wages. Now it is 3⅝% each on income up to $4,800. The tax on the self-employed has risen during the same period from 2¼% of the first $3,600 of income to 5.4% on the first $4,800. For many taxpayers, the Social Security tax already takes a bigger bite out of income than the federal income tax. Even without the enactment of Medicare, the tax rate must be increased to provide for an actuarially sound trust account. By 1968, the employee-employer total tax will be 9.25%. Estimates based on actual claim experience of insurance companies indicate that within six years the estimated cost of the program will require a joint tax on a $5,000 income of 11%. This estimate is based on present benefits provided by the pending legislation. Once enacted there is little question that pressures would be engendered to expand the scope of the program, increase the benefits, provide for longer periods of time, and to lower the age limit. All this would of course substantially increase the wage tax and the employers tax for all American workers.

There is another feature of the compulsory wage tax and the corresponding tax upon employers for the limited health services proposed by the King-Anderson Bill which I strongly dislike. That is the fact that this would be a system of regressive taxation for health purposes entirely violating the concepts of progressive taxation which have so long served us so well in the field of income taxes. In short, the health tax would entirely ignore and violate the ability to pay concept of taxation. It would in fact tax the very poor and the very rich at precisely the same tax rates on that first important segment of their annual income which serves as the tax base. For some Americans, for example, their entire income would be subject to this new tax grab while for the wealthy and the well-to-do by far the larger percentage of

their income would be exempt from any health-tax assessments or payments. In many ways this proposed Federal health tax is far more unjust to those with marginal incomes than would be a Federal Sales Tax which some are now proposing in lieu of Federal Income Taxes.

Another important consideration which seems to me to argue against the compulsory Social Security approach is that in establishing such a program we are taking an irreversible step. I say irreversible because we will be requiring people to pay taxes to a program from which they cannot benefit until age 65 so, once started, it would be exceedingly difficult to discontinue. To take such a step at this stage strikes me as very unwise. We are venturing into an entirely new area so far as the government is concerned. We cannot predict with accuracy at this point what problems and difficulties will be encountered. This being the case it seems to me that any program established should be highly flexible so that it can be easily modified to meet unexpected problems which are bound to arise. From this standpoint the pending proposal would be most unsatisfactory.

I urge the Committee to ponder well this extremely important and far reaching and irreversible decision and I strongly urge sufficient time for the Kerr-Mills Act to be tested in the laboratory of life so that its true worth can be examined and evaluated. Until that is done, I strongly urge this Committee and the Congress not to take the irreversible step of meeting the King-Anderson Bill.



Out Patient Needs

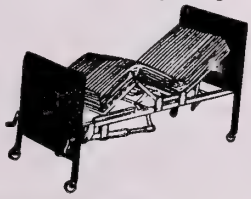
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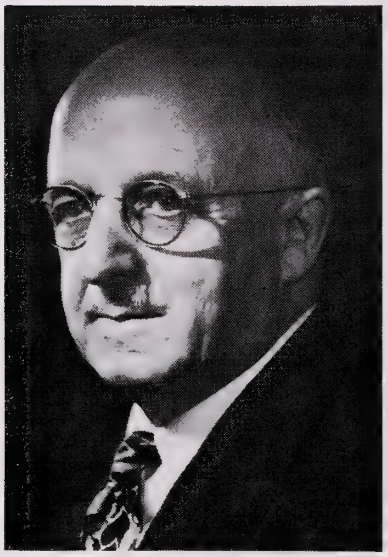
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In Memoriam



GUY VAN DEMARK, M.D.

1879 — 1963

Guy E. Van Demark, M.D., pioneer bone specialist, passed away in Sioux Falls on November 9th, at the age of 84.

Dr. Van Demark was born October 4, 1879 in a claim shanty three miles north of Hartford, South Dakota. Completing his elementary schooling in a rural district, he earned a second grade teacher's certificate and taught country school for two years. He attended Dakota Wesleyan University at Mitchell for two years and graduated from Northwestern University's Medical School. Following his internship in Chicago, he returned to South Dakota. Except for his service with the Army as an orthopedic surgeon in World War I, he always practiced in Sioux Falls.

Dr. Van Demark was best known for his skill in correcting and preventing deformities, especially among children. His fame as a mender of broken bones, in cases requiring highly specialized attention, extended beyond the borders of South Dakota.

He was instrumental in developing the crippled children's ward at Sioux Valley Hospital, and the Crippled Children's Hospital and School.

Dr. Van Demark pioneered and introduced many surgical operations in this area. He was the first doctor in Sioux Falls to treat fractured hips with hip pinning. He was the last survivor of the founders of the Sioux Falls Clinic, and was the first surgeon in the state to pass the written and oral examinations for certification as a specialist by the American Board of Orthopedic Surgery. He was a fellow of the American Academy of Orthopedic Surgeons.

During his career Dr. Van Demark received many recognitions for his work, such as the Distinguished Service Award of the South Dakota State Medical Association, and the Citation for Outstanding Service from the President's Committee for the Employment of the Physically Handicapped. In 1951 he received the Sioux Falls Cosmopolitan Club's Distinguished Service Medal for his work with crippled children.

A bachelor most of his life, Dr. Van Demark was married to Cora Rierson in 1963. Immediate survivors besides the widow are a sister, Mrs. Robert Atkinson, Sioux Falls; a brother, Frank Van Demark, Cut Bank, Montana; and a nephew, Robert E. Van Demark, M.D., Sioux Falls.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Husbands are things that wives **have** to rule, but wives are not always right!

All members of the South Dakota State Medical Association are invited to attend the Twelfth Annual Clinical Meeting of the College of Obstetricians and Gynecologists to be held May 17-22, 1964 at the Americana Hotel, Bal Harbour, Miami Beach, Florida. There is a registration fee of $25.00 for doctors who are not Fellows of the College.

* * *

An election of officers held by the Brookings District Medical Society resulted in the following slate:

President:
J. A. Anderson, M.D.
Vice President:
Bruce Lushbough, M.D.
Secretary-Treasurer:
C. M. Kershner, M.D.
Delegates:
Donald Scheller, M.D.
J. A. Anderson, M.D.

F. E. Manning, M.D., well-known Custer physician, has submitted his resignation as representative of the 44th Legislative District. He was a member of the State House of Representatives for three years.

* * *

Robert A. Buchanan, M.D., Huron, was named president of the North Central Medical Conference at its annual meeting in Minneapolis, Sunday, November 24th.

The Conference is made up of representatives of the medical associations of Minnesota, Wisconsin, Iowa, Nebraska, North and South Dakota, and meets annually to discuss socio-economic phases of medical practice.

Dr. Buchanan, a past-president of the South Dakota State Medical Association, was named president-elect of the Conference a year ago. He will preside at the next annual meeting which will be held in Minneapolis in October, 1964.

A.M.A. PRESIDENT SPEAKS IN WATERTOWN

Edward R. Annis, M.D., A.M.A. president, Miami, Florida, was the featured speaker at the annual meeting of the Watertown Chamber of Commerce Monday evening, December 9th, before a crowd of 700. Dr. Annis pointed to the progress that American medicine had made over the year and discussed some of the new developments now on the medical horizon. In his talk he praised Senator Karl Mundt (R-South Dakota) for his statement before the House Ways and Means Committee considering King Anderson legislation.

In addition to Watertown Chamber members and wives, a strong delegation of physicians from Sioux Falls, Aberdeen, Brookings, Madison and De Smet were in attendance. The Seventh District Medical Society (Sioux Falls) chartered a bus and had 23 people present for the Annis talk.

The new officers of the Aberdeen District Medical Society, elected at the December meeting, are as follows:

President:
Bernard Gerber, M.D.
Vice President:
Carson Murdy, M.D.
Secretary-Treasurer:
Paul R. Leon, M.D.
Delegates:
William R. Taylor, M.D.
C. L. Vogele, M.D.
R. E. Bormes, M.D.

* * *

The North Central Medical Conference member states (Iowa, Minnesota, Wisconsin, Nebraska, Dakotas) have decided to abandon their joint hospitality room at AMA interim and annual sessions.

* * *

A nine month tutorial program in Cardiology, September 15, 1964 to June 15, 1965, will be offered by the Institute for CardioPulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California. This will be an intensive program covering the field of cardiovascular diseases and is especially designed for the physician in private practice who wants a year of organized instruction with freedom from direct patient responsibility. For details, write: E. Grey Dimond, M.D., Institute for CardioPulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California.

* * *

DR. ANNIS, MRS. STOLTZ SEE QUINTUPLETS

A.M.A. Auxiliary president, **Mrs. C. Rodney Stoltz** of Watertown, South Dakota, and A.M.A. president, **Edward R. Annis, M.D.,** Miami, Florida, made a brief visit to St. Luke's Hospital on December 9th to see **Dr. James Berbos** and the Fischer quintuplets. Dr. Annis praised the work of Dr. Berbos and pointed to the fact that the progress of American medicine was such that the latest developments appeared not only in the great teaching and research centers but in communities such as Aberdeen also.

* * *

HEALTH COUNCIL MEETS IN SIOUX FALLS

The InterProfessional Council, consisting of representatives of the Medical Association, Osteopathic Association and Chiropractic Association who are required to qualify in the Basic Sciences met at the Sheraton-Cataract Hotel on Sunday, November 17th.

John Zimmer, Attorney for the Basic Science Board, presented a report on the "Quackery" investigations being made in the state.

Following Mr. Zimmer's report, problems of mutual interest were discussed by the group.

* * *

SDSMA—BLUE SHIELD OFFER DEBATE KIT

A debate kit for high school students on the question of social security medical care was distributed at the end of October to all high schools in the state.

Based on the very excellent work done in a kit by Texas Blue Cross and Blue Shield, the material was presented as a joint public relations effort of the South Dakota Medical Association and South Dakota Medical Service (Blue Shield).

The first 150 kits were distributed to debaters at a debate rally in Parkston on October 26, where executive secretary John C. Foster was a principal speaker. Charles Kornman, executive secretary of the South Dakota Democratic party also discussed the subject.



GUILFORD C. GROSS, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



SPECTATORS OR PLAYERS?*

by

Harold E. Thayer**
St. Louis, Mo.

I am honored to be asked to speak to you today. The St. Louis College of Pharmacy has been a leader in its field and begins its 100th year next semester. You can all be proud to be graduates of a private college that has developed and grown in stature for nearly a century.

For the last four years your parents and families have encouraged and helped you. For the past four years your faculty has been lecturing, instructing, inspiring, encouraging, and sometimes helping with your personal problems. Today your friends and relatives are here to see you graduate. Your teachers are putting their professional label on you, satisfied that you are qualified candidates to become registered pharmacists.

Now it is up to you to fulfill the high hopes all these fine people hold for you. They want you to be able citizens. They want you to serve as important members of the world's finest health team — a well-balanced group of doctors, dentists, nurses, clinical and diagnostic laboratory personnel, pharmacists and pharmaceutical manufacturers. This team has an impressive record. Among its accomplishments:

1. Twenty-three years have been added to our life span during recent years.
2. The death rate during childbirth has declined 90%, and infant mortality has been cut in half since 1940.
3. Deaths from tuberculosis and rheumatic fever are down 83%, and deaths from influenza are down 90% in the last ten years.

You are beginning your professional careers in an era of great progress in the health field. You probably share my conviction that equally great advances will be made in your lifetime. Our hope for the future is based on our confidence that all of us who are concerned with improving man's health will rise to meet the many challenges that face us. We need many new or better drugs. To name a few, the search continues for:

—cures for cancer
—a cure for the common cold
—better mental health drugs
—drugs to cure high blood pressure

All the members of the health professions have their parts to play in the conquest of disease and pain.

As pharmacists there will be challenges peculiar to your calling — those pertaining to professional and those pertaining to commercial relationships. In addition, all of us have political, economic, and social responsibilities which we must accept and discharge.

*Commencement Address, St. Louis College of Pharmacy, June 14, 1963.
**President, Mallinckrodt Chemical Works.

Challenges and Opportunities

Most of us recognize challenges as our opportunities for progress. Our reactions to them, however, can be active or passive. We can regard life as a spectator sport to be watched from the side lines, or we can get into the game as players.

This morning I want to talk about some of the challenges you are most certain to encounter. You will have the choice of responding to these challenges as players or spectators. I hope you will be counted among those who choose to take part actively as players.

As part of my preparation for today, I talked with some of my associates at Mallinckrodt Pharmaceuticals who have degrees in pharmacy. They gave me their views about the profession.

I also have been in touch with association executives, high-level pharmacists in government, editors of drug and pharmacy journals, doctors, and others who were interested and informed. They assured me that you are going into a professional life that will test your talents and abilities, and one that still offers abundant opportunity for growth.

I understand that a recent survey of your class revealed that 70% want to become retail pharmacists; 12% wish to go into hospital pharmacies; 16% would like to go on to graduate or other professional schools, probably leading to teaching for some; and 2% want to go into the pharmaceutical industry.

Problems of Retail Pharmacies

Those of you who are going into retail pharmacies, whether private, chain, or prescription, will see many situations that you will want to correct or improve. What, for example, is the proper balance between professionalism and commercialism — between being a pharmacist and a merchandiser? Keep in mind that as store proprietors or managers, your business can fail if you are not both good merchandisers and professional pharmacists.

Just as a thought, it occurs to me that retail pharmacy may demand its own kind of professionalism. Pharmacy alone among the health professions sells products in the process of providing its health service. This introduces a commercial element that could make it difficult to keep the professional aspects in the foreground.

I suggest that there is a degree of commercialism that is compatible with professionalism — that the appropriate commercialism is soft-sell, dignified, tasteful — not flamboyant, loud and pushing.

Pharmacy is probably being hurt by both the extreme commercialists and the extreme professionals. A sensible stance needs to be taken. The challenge is to find it — and now — so that your activities may be guided by a continuing principle throughout your professional life.

Hospital Pharmacy Challenges

To those of you entering the specialized field of hospital pharmacy, whether in private or Government hospitals, the problems and opportunities are different but just as great. It has only been in the past few decades that pharmacy service in a hospital has evolved from a basement "drug room" to a professionally staffed department offering complete pharmacy service. In the process the importance of the hospital pharmacist has grown. Today he is often the secretary of the Pharmacy and Therapeutics Committee and responsible for implementing its decisions.

Some of our hospital pharmacies become involved in pharmaceutical compounding. They prepare the frequently prescribed dosage forms of the more familiar drugs. One of the decisions you may make as hospital pharmacists is when to compound and when to buy. Your obligation is to provide the hospital with medical preparations that are not only safe and reliable but low in cost.

You have problems that your fellow pharmacists outside of hospitals may not appreciate. For example, your professional performance is observed by members of the other health professions, which may be quite different from the professional scrutiny that retail pharmacists experience. As in many other situations you will encounter, talent in diplomacy as well as technical skill will often be necessary.

It is good that you have challenges to face. If you meet them well, an important segment of the health program will move forward. Again, let me stress — participate as active players — don't sit on the side lines.

Opportunities in Pharmacy Education

Those of you who have chosen to continue your schooling or to enter the teaching profession will face the traditional problems of education. Pharmacy education has been in a whirl of change in the past decade. We now have five-year courses, and pre-pharmacy liberal arts curricula. We now place more and more emphasis on research, more on graduate study.

Some of the leaders in your profession say that the highest professional function of the pharmacist is to be an important information source on drug action and uses for the health team. Is pharmacy education designed to fit him for this responsibility? Does he need to know more of pharmacology, for example, than he is now taught?

To those of you who may enter the field of education there will be the opportunity to contribute new ideas to instruction in pharmacy. As a teacher you will want to conduct research and publish papers, adding to your own and your school's prestige. This offers you an opportunity to get in the game as participants. I hope you will be players.

Careers in Pharmaceutical Industry

Some of you have already made plans for careers in the pharmaceutical industry. Perhaps a number of you starting in other fields will come into industry within the next few years. You will find there is much to be done.

In our company we had one pharmacist ten years ago and he was an industrial chemical salesman. Today we have pharmacists fulfilling many functions in our pharmaceutical business. Some are active in field sales and in marketing — others in quality control, in research and development and in our programs of clinical investigations. Some are concerned with the problems of compliance with Federal regulations. Our research director's first degree was in pharmacy. The president of our VP&B pharmaceutical division is a pharmacist. The marketing manager of Mallinckrodt Pharmaceuticals is a pharmacist.

Life in the corporation has been described so often and so well that it is superfluous for me to dwell on it now. The pharmaceutical manufacturing industry has great need of men and women of the player types. Spectator types are not in great demand — there or anywhere.

Improving Professional Stature of Pharmacy

Whatever your field of specialization, there are some problems that seem to be common to the entire profession of pharmacy. The professional nature of pharmacy needs to be better recognized by the public, most of whom do not know that your first two years of college are really pre-pharmacy, liberal arts courses; that five-year courses are being required for a degree; that it also takes a year of internship to be eligible to take state board examinations to become a registered pharmacist.

The public should know that the pharmacist has broad medical-legal responsibilities and is a major source to the physicians in any community for information on the composition of drugs, how they act, their contraindications and how they should be used. How many people know that doctors made an estimated 51,000,000 phone calls to pharmacists for information of this sort in a recent year? How many know that 96 of 100 doctors surveyed said they regularly consult pharmacists for facts about drugs? Such facts should be widely known.

As a consultant to the prescriber and the public, the pharmacist is a central member of the health group. "Health information consultant" is a term that describes his ideal relationship to the other members of the health professions and to the public. It will test your skills to see to it that the public understands and appreciates your professional role.

Another question is what you can do to increase public understanding of the service you are prepared to render. Part of the difficulty seems to be that not many people develop the same personal relationship with their pharmacist that they do with their doctor or dentist. According to recent surveys, "only about 10 percent of the American people consider that they have a family pharmacist." Improving your personal relationships with the people you serve is a challenging problem.

The leading part that pharmacists have played in sponsoring Poison Control Centers

in hospitals is a good example of the broadening of your services that does credit to the profession. These centers, with their index of information on household and industrial poisons, and their stock of antidotes, have great lifesaving potential.

Your knowledge of drugs and poisons, and their action, may be of vital importance to your customers, and they may not realize it. There ought to be more who react like one Webster Groves mother whose baby swallowed fluoride pills that had been prescribed for an older child. She phoned her pharmacist — to find out whether the pills were harmful. He counselled her to call a physician at once and gave her first aid advice. The baby received prompt medical attention, and the ending was happy.

What people think of pharmacy is probably their composite opinion of individual pharmacists. If their experiences have been pleasant and have inspired confidence, if they consider pharmacists to be men of integrity and professional bearing, accommodating and interested in the public welfare, — then pharmacy need not worry about its image.

Other ways to improve the public opinion of the profession have been proposed. I urge you to develop close relationships with key personnel in your local newspapers, television and radio stations, so that they look to you for advice on pharmacy questions. Some pharmacies provide literature on first aid, poison antidotes, and accident prevention.

Importance of Civic Activities

In addition to whatever involvement you may have with the problems of pharmacy, there will be others outside of your professional field — and they may be political, economic, or social, but important to you as a responsible citizen. There will be such questions as: Does your community have a good form of government? Are the city officials strong or weak? Is your community run efficiently? Are property values maintained? Are your schools adequate? Does your community need a new hospital?

You can help raise pharmacy in the public esteem by taking an active part in the government of your community, and the many service, cultural, charitable and other fine organizations that want to see things improved. Get elected to the city council or the school board so that you can participate in and contribute to important community decisions. Be active in your Chamber of Commerce. Work on bond issue drives, or the United Fund. As pharmacists show their broad capabilities before a wider and wider public audience, their educational attainments and their capabilities will be better recognized. As you — as individuals — rise higher in the public regard, respect for your profession also will grow. Here again, in your daily living, lie many opportunities to be an active player in developing your own and your profession's stature.

Understanding Health Costs

Another area in which we as members of the health team have a great opportunity has to do with the costs of health today.

As you know, public discussion of the subject tends to be clouded by emotions, and in some quarters all of us are pictured as being obsessed by the desire for excessive profit. You and I know that the facts are otherwise. You and I know that behind the cost of each successful drug are the costs of the unsuccessful ones. We must get our story told, listened to, and understood.

The truth of the matter is that for a number of years about 100,000 substances have been screened and tested annually by the drug industry. Over the past few years, the number of new chemical entities introduced into medical practice has varied from as high as 63 in 1959 to 28 in 1962. It is increasingly difficult to discover and market new therapeutic agents.

All of us who know the facts know that the development of new drugs poses problems to every member of the health team. We also recognize that only through the acceptance of risks can we make progress. Before a pharmacist can fill a prescription for a new health-giving drug, others have had to complete many tasks — and successfully. Some member of the team has had to conceive a new chemical structure or find new drug candidates. Similar structures must then be synthesized, screened and studied pharmacologically. After many labors, one new chemical entity is deemed to be ready for advanced pharmacology and ultimately clinical trial. Finally one new drug is considered to be both safe and effective and be-

comes available to the medical profession.

The justification for the great expenditure of human effort by the health team is that the new drugs it hopes to discover may relieve suffering that has heretofore been unrelieved, or save lives that have heretofore been lost, or allow out-patient treatment of what has heretofore required hospitalization.

Pharmacists play significant parts in the development of a new drug — from its conception to its appearance in the medicine cabinet at home. Behind the achievement is an operation involving much thought and skill, much effort and expense, and the utilization of costly facilities.

Even with this great expense and effort, the fact is that never in the history of mankind has so great a health bargain been offered as today.

It is a challenge to everyone involved in our great health effort to do his part to correct the misconceptions on this subject. You are technically trained, respected professionals in frequent close contact with the public. You have an unusual opportunity to get the message across. It can be done in many ways. Speak on the subject in public if you have the chance. Devote a special display to it in the store window or at the prescription counter, or develop a mailer or package insert telling the facts about drug costs.

Again I remind you that being members of the health team offers ample opportunity to be active players — don't be just a spectator.

Legal Regulation

Another problem is the one surrounding pharmacy in the form of an ever-increasing body of laws that affect the profession and the pharmaceutical industry. During the past few years we have witnessed unprecedented activity at the state level. Thus far this year some 1200 bills of interest to pharmacy and industry have already been introduced.

The number of bills is almost overwhelming. Occasionally their nature is almost frightening. For example, one bill introduced in the New York State legislature would have effectively stopped the sale of all but a few drugs. This was unintentional and resulted from imperfect understanding of the legal complexities of the drug business. Thanks to help from highly trained, well-informed people like you, the bill was not enacted.

In another case in California a bill was introduced that would have required the pharmacist to provide label information that was unavailable. When drug industry representatives pointed out that the sponsors were asking the impossible, the bill was amended.

In terms of products, the drug industry is the most highly regulated industry in this country. One thing that would advance the regulatory problem would be the adoption of uniform state laws, and our professional associations are working toward that end.

You have the knowledge to help your elected representatives to develop wise laws. You also have the obligation to establish and meet such high standards of professional conduct that only a minimum of legal regulation will be necessary.

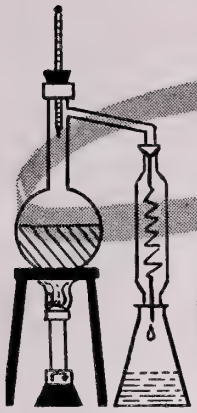
You can meet the challenge of over-regulation on both fronts. In your professional associations, work for professional self-discipline. In legislative halls, appear at public hearings and make your views known.

If you don't do your part to solve your problems from the beginning, someone else will surely do it for you. When you wake up to the fact that you don't like their solution, it may be too late. Here is another chance to be a player. You can't win if you don't play, and you may lose if you only watch.

Before closing, I want to make a few observations on factors that seem to influence personal success and satisfaction.

1. Don't ever stop learning. Continue your education and professional growth by yourself or in groups. Join your professional societies. Read your professional journals. Attend professional and civic meetings. Don't let yourself stagnate mentally. Read at least one weekly news magazine. Know what's going on in the world as well as in your community.
2. Be responsible citizens of your community and take an active part in its government. Make and take time for it. Don't wait too long to get started. Democratic self-government is a difficult and

(Continued on Page 61)



Advances In Drug Research

ANTIGENS — THE FINGERPRINTS OF DISEASE

Antigen Background

The tubercle bacillus, cause of tuberculosis in man, has been one of the most intensively studied microbes in the whole history of microbiology; yet it has never given up all its secrets, nor all of its power to evoke dread.

Today tuberculosis is seldom called the "White Plague" or "Captain of all the Men of Death" as it was only a few decades ago. Nevertheless it is still a killer and recently it has been found to have certain baffling impersonators whose existence was unsuspected through most of the long history of the disease.

The existence of these impersonators — other microbes that can cause disease clinically indistinguishable from tuberculosis — has raised important problems. For example, the treatment that is most effective for tuberculosis can be ineffective or even downright harmful in a case of histoplasmosis—a fungus disease that can mimic the effects of tuberculosis.

Furthermore, fungus diseases like histoplasmosis are not believed to be contagious from man to man while tuberculosis is the leading killer among infectious disease.

It is important, therefore, to be able to tell one disease from another both for the patient's welfare and for that of the community as a whole. This is often difficult.

Needed are more precise and effective tools for tracing the tubercle bacillus, and other agents, in a human population or in an individual. Most important are means of distinguishing one of the microbes surely and quickly from all the others.

Though the death rate from tuberculosis has been dropping in the United States for a half century, the pursuit of this disease and its imitators is still a life and death matter for millions of people.

It is estimated that a fifth of the entire population of the United States has been infected with Mycobacterium tuberculosis, that is, are tuberculin positive. Almost as many Americans — the figure is put roughly at 30,000,000 — have at one time been invaded by Histoplasma capsulatum, the fungus responsible for the largest number of tuberculosis-like fungal infections.

While all the people infected with the tubercle bacillus will not come down with active tuberculosis, most of the active cases of the future will come from the infected of today. And it should be noted that approximately 50,000 new cases of tuberculosis are reported annually.

In addition to the reported cases, there are other people who are breaking down with tuberculosis who do not yet know they are ill. These people, who have undiagnosed active tuberculosis, are the ones most apt to spread tuberculosis to others. This is a particularly important point in the public health worker's ceaseless efforts to combat the di-

sease. Their objective is to discover new cases of tuberculosis before it is too late to treat them effectively and before the infection has been spread to the patient's family and other close contacts.

An antigen is any substance capable of provoking an immune response when it finds its way inside a living human or animal body. The classic form of this immune response is the production of antibodies — specific protein substances each designed to attack and neutralize one and only that specific antigen which causes its production.

On being attacked by most invading microorganisms, the body will produce antibodies against the antigen characteristic of that microorganism. This is the body's main line of internal defense against an enemy which it has encountered in the past. Measles, a virus disease, is one of the classic examples of this arrangement. Though antibody action doesn't prevent disease in a person's first encounter with the measles virus, it does commonly prevent a second attack throughout the remainder of a person's life.

It is because of this kind of effect that vaccines against such diseases as polio, smallpox, and more recently measles, are made possible.

The antigen-antibody reactions are also valuable in diagnosis. Antibodies formed against any one specific antigen will react with it but with no other substance. Test tube encounters between a known antigen, from one type of polio virus, for example, and a sample of blood serum from a patient, can be used to determine which of the three main types of polio is the cause of the patient's illness.

Unfortunately, the tubercle bacillus is not so accommodating. For reasons which are still largely obscure, protective antibodies do not seem to be powerfully effective in fighting off this invader. Furthermore, the microbe's antigenic portrait has proved to be extremely complex. The tubercle bacillus appears to have many antigens, some of which it holds in common with other totally unrelated organisms. This complexity has baffled all attempts to date to find any unique and specific antigen which is the trademark of the tubercle bacillus and the tubercle bacillus alone.

In a chronic disease such as tuberculosis, the pattern of antibody-antigen relationship is far less simple than it appears in an acute disease such as measles. For one thing the intact tubercle bacillus doesn't seem to be a potent provoker of antibody production. The reason for this is not entirely clear, but specialists believe many of the potent antigens are located inside the bacterial cell. While the cell is intact these do not come into direct contact with the body's immune defense system.

This may partly explain the observed fact that antibodies against the tubercle bacillus can sometimes be found and at other times cannot readily be demonstrated by laboratory tests of a patient's blood serum. Perhaps the antibodies are produced only when the body's other inner defenses kill enough tubercle bacilli to loose large amounts of free antigens into the blood stream. At times when a new generation of intact tubercle bacilli is growing in the patient, however, such breakdown products may not be available to stimulate antibody.

Another possible partial explanation of the irregular cyclic appearance of antibody and antigen in the tuberculosis patient is this: a huge excess of antigen would combine with all the available antibody and leave none free in the blood serum to show up in laboratory serologic tests. Conversely, a high concentration of antibody might blot up all the available free antigen, so to speak, and make the antigen's presence in the body hard to prove.

The isolation of any pure "trademark" antigens to tuberculosis would represent a huge step forward in diagnosis and case finding and might well pave the way for development of vaccines much more potent and effective than any now available against this ancient enemy.

The search for such antigens has been in progress for decades. Today the hope of success seems to be dramatically higher than it has ever been before. This is true because of the development of many new, highly sensitive techniques and because of an increasing interest in this field among microbiologists.

Classified Mycobacterial Antigens

To Americans the most important of the

mycobacteria is M. tuberculosis, var. hominus, the bacterium of human tuberculosis. This is also known as the tubercle bacillus. M. tuberculosis, however, is only one of a whole genus of bacteria several of which are capable of infecting man. In this country most cases of human tuberculosis stem from infection with M. tuberculosis, but human disease can also be produced by the bacterium of bovine tuberculosis and in some rare cases also by Mycobacterium avium — the tubercle bacillus that naturally infects birds.

An entirely different mycobacterium — Hansen's bacillus — is the characteristic germ of leprosy.

The disease tuberculosis, as a chronic and deadly affliction of human lungs, has been known throughout human history. The bacillus itself, however, was first discovered in 1882 by the great German bacteriologist, Robert Koch. He also proved that this bacillus was the cause of the disease already known as tuberculosis. It was Koch who carried this important advance further by discovering the substance called tuberculin which has played so great a part in all subsequent research, diagnosis, and epidemiological study of tuberculosis.

In fact, the discovery of tuberculin, not long after the discovery of the bacillus itself, was really the first step in the long search for a specific and distinguishing antigen of tuberculosis.

Tuberculin is a cell-free preparation extracted and filtered from laboratory cultures of tubercle bacillus. Koch found that an animal which has been infected experimentally with the bacillus would demonstrate an immune or allergic reaction to an injection of tuberculin. If the injection was into the blood stream, profound effects and even death resulted. If the material was simply injected into the skin the area around the site of injection becomes raised, hard, and red. Animals that had never encountered the tubercle bacillus gave no such reactions.

It was soon proved that a person who had previously been infected with the tubercle bacillus would also develop a characteristic skin reaction following an injection of tuberculin between the layers of skin. This fact provided science with its first good diagnostic weapon against the dread disease.

Material like that produced by Koch, and called Old Tuberculin or OT, is still sometimes used for diagnostic purposes.

Like all of the later and more sophisticated preparations of the same sort, Old Tuberculin has had the drawback of failing to discriminate between infection and disease; active and inactive disease.

Furthermore, scientists soon became aware that Old Tuberculin is by no means a single pure antigenic substance. It is, in fact, a mixture of many antigens some of which have been altered by the process of preparation so that they are no longer identical to antigens of the natural tubercle bacillus itself.

With the recognition of these drawbacks began the long, slow battle to find better ways of extracting material from the bacillus in the search for more and more specific antigens. Since the 1920's, pioneering work in this specialized field has been done by Dr. Florence B. Seibert.

Through Dr. Seibert's research, a purified tuberculin was produced and given the name Purified Protein Derivative — PPD (Dr. Seibert had shown, among other things, that it was primarily protein substances in the extracts that were producing the diagnostic allergic reaction.) A standard form of PPD, called PPD-S, has been produced under the sponsorship of the World Health Organization and is now widely used in diagnostic work and case-finding activities. The standardization is an important contribution. Obviously research scientists cannot usefully compare their results unless they are dealing with comparable and uniform basic materials. Nevertheless, success in finding a single unique antigen of the bacillus still eludes the scientists pursuing this goal.

Though earlier versions of PPD and the present PPD-S are far purer chemically than Old Tuberculin, it has again become obvious that even these refined products are mixtures. They seem to contain several, perhaps many, antigens. The newer preparations are still not free from confusing cross reactions with other mycobacteria and, in the opinion of some specialists, even with the tuberculosis-mimicking fungus infections. This

lack of definition and antigenic purity has greatly hampered research and public health efforts.

While a negative tuberculin test is a fairly sure presumption that the individual being tested has never had a tuberculous infection, a positive test still is not definite proof to the contrary. Yet with fewer cases there is actually a greater need for diagnostic accuracy. If all the infected could be identified, through the tuberculin test, steps might be taken to prevent the infected from developing disease and spreading the disease to others. This would be a major step toward the eradication of tuberculosis in this country.

For accuracy in skin testing and in serologic work the crucial factor is the purity of the antigens used. Hence the interest in ever-increasing antigenic purity.

To separate, refine and isolate antigens, laboratories throughout the world have developed many methods. For fractionating the bacilli alone there are many different physical and chemical techniques. The same profusion exists in methods for the more exacting later stages of antigen isolation. It is here that highly sensitive techniques such as chromatography and electrophoresis come into play. Essentially these are methods for separating and sorting out the constituent substances in a mixture so that each component can be studied alone.

Unclassified Mycobacteria

The unclassified mycobacteria are an enigma. Only recently improved laboratory techniques have made it possible to bring them to light. It is still not known whether they represent a new phenomenon in the story of the mycobacteria or whether they are old villains that have always been a part of the tuberculosis picture, though previously unrecognized. Are they all distinct types of mycobacteria or are some simply mutant forms of M. tuberculosis itself? No one knows for sure.

Whatever the answer, there is no doubt that they are important from the viewpoint of public health. They can produce disease clinically indistinguishable from pulmonary tuberculosis, but their response to treatment is far different from that of the classical disease.

While tuberculosis itself is transmitted directly from person to person, the unclassified mycobacteria do not appear to be transmitted in this way.

Since, therefore, it seems that patients with mycobacteriosis do not infect each other, it is not important that they be isolated. Simpler and more effective diagnostic tools, however, are needed to distinguish this noncommunicable disease from tuberculosis.

According to present terminology there are four basic types of unclassified mycobacteria. These are:

I. Photochromogens, so called because they take on a yellowish color under exposure to light.

II. Skotochromogens, which become pigmented in the dark. The prefix, skoto, sometimes spelled scoto, means shadow.

III. Nonchromogenic, also known as the Battey type, so called because they were first isolated at Battey Hospital, Rome, Ga.

IV. Rapid growers, so called because they grow faster in laboratory cultures than is the case with most mycobacteria.

For all these groups there is much less information and hard factual knowledge available than scientists could wish. In fact, not too long ago, the unclassified strains were called atypical or even "anonymous."

The photochromogens and the Battey type seem to be the group most frequently involved in human tuberculosis-like disease, but even this is somewhat speculative. There seems to be little doubt that a positive skin test for tuberculosis may not signify infection with the tubercle bacillus itself, but with one of the unclassified agents. These cross-reactions are a growing problem in case finding and diagnosis.

According to a recent estimate, between one half and two per cent of all patients thought to have pulmonary tuberculosis are actually found to harbor forms of unclassified mycobacteria rather than the true M. tuberculosis. Skin test surveys suggest that, in some areas, these organisms may be substantially more prevalent than had been supposed.

In the northern states and Texas the photochromogens seem to be the most common, while the Battey groups seem to be most prevalent in the Southeast.

Systemic Fungus Diseases

If anything, the fungus diseases that mimic tuberculosis are a more perplexing problem than the unclassified mycobacteria. The causative organisms are markedly different from the mycobacteria, their characteristic antigens are even less thoroughly understood.

Some of them are extremely widespread. Millions of persons have been exposed to them. Treatment that will be beneficial for a tuberculosis patient may actually be harmful for someone who has a tuberculosis-like illness caused by one of the fungi.

Principal among these enemies of mankind is the fungus, Histoplasma capsulatum, the causative agent of histoplasmosis. The fungus grows in the soil and seems to be transmitted thence directly to man without any intermediate host. There is no evidence that one person can ordinarily "catch" histoplasmosis from anyone else. Though histoplasmosis epidemics have been known to develop from exposure to bird droppings, there is no conclusive evidence that the birds have actually carried the disease to man. Rather it appears that the bird droppings simply provide an ideal culture medium for the fungus when the two meet in the soil.

Like some of the other systemic fungus diseases of man, histoplasmosis was once thought to be a rare infection that was almost always fatal. It was first identified by a physician in the Panama Canal Zone and later was found in various parts of the United States. By 1945 only seventy-one documented cases had been reported. It was soon proved that this was no real reflection of the occurrence of the fungus disease.

It is now believed that 30,000,000 persons have been infected with this fungus at one time or another and that 1,000 of these break down each year with chronic pulmonary disease resembling advanced tuberculosis while others develop milder forms of disease.

In the past it has frequently been misdiagnosed as tuberculosis, despite the fact that anti-tuberculosis treatment is not only useless in cases of histoplasmosis, but may actually be harmful.

The fungus apparently exists quite widely throughout the United States, but is most common in damp, humid rural areas especially on the western Appalachian slope and the bordering areas west of the Mississippi and north of the Ohio Rivers.

It is also found throughout the central south and southwest, but apparently not in any appreciable numbers in the northwest, northeast or extreme southeast.

Evidently histoplasmosis is not a new disease, but its recognition has been delayed for years because its symptoms resemble such diverse common illnesses as influenza and tuberculosis.

It has been the development of the skin testing survey methods and other modern aids to case finding that has done much to demonstrate the true scope of the histoplasmosis problem.

Another of the important fungus diseases is coccidioidomycosis first observed in Argentina in 1892, and, shortly thereafter, in California. Like histoplasmosis, coccidioidomycosis was once thought to be a rare disease that was almost always fatal. The case fatality rate was once estimated at 90 per cent or more.

It is now known that the fungus of coccidioidomycosis is widespread throughout the southwestern United States. It has been estimated that 10,000,000 persons in this area have been infected and that about 100,000 new infections develop each year. The fungus apparently lives in the soil and is inhaled with dust.

Of the 100,000 who are infected yearly about one third develop signs and symptoms requiring medical care. Though most of the victims recover spontaneously without treatment, a few develop widespread serious disease and some develop a chronic pulmonary illness like tuberculosis. Sometimes this develops after a time lag of years.

The third of the major systemic fungus diseases in the United States is North American blastomycosis, first described in 1896 and now known to be endemic in an area including most of the basins of the Ohio and Mississippi Rivers and stretching eastward through the Carolinas and Virginia.

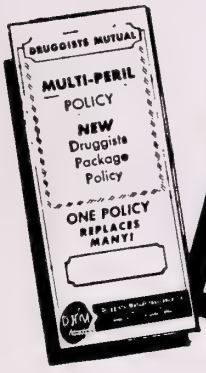
Blastomycosis is a puzzler in many respects. It is not thought to be contagious from man to man, but the fungus causing it has never yet been found in nature other than in samples taken from human patients.

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The skin tests and serologic tests for finding cases of blastomycosis are largely unsatisfactory. There are confusing cross-reactions between it and the other fungi. Furthermore, patients who have been proved to have blastomycosis frequently test negatively for it. An expert in the field has estimated that as many as 80 per cent of proved blastomycosis cases will give negative skin tests and 65 per cent will give negative serologic tests.

Again there is need for more specific antigens so that the testing can be more effective.

These three fungus diseases are by no means the only ones that plague man in North America, nor even the only ones that can be confused with tuberculosis.

Among such fungus and fungus-like diseases are cryptococcosis, caused by the yeast Cryptococcus hominis which sometimes attacks the central nervous system, at other times the lungs; actinomycosis, nocardiosis and candidiasis. At least two types of actinomyces can cause deep-seated abscesses and pulmonary infections and both are widespread in nature. The nocardia are closely related to the actinomyces and can cause clinical syndromes indistinguishable from them. To the microbiologist the usual distinction between the two groups of organisms is that the nocardia are aerobic — living in the open air; while the actinomyces are anerobic and multiply only in the absence of free oxygen.

Candidiasis, also known as moniliasis, is another but closely similar story. Most cases are caused by the yeast-like fungus Candida albicans which has diverse talents in causing human illness. It can cause infections of the mouth, of the nails, generalized eczema-like infections of the skin. Especially in persons weakened by other illness, Candida can also invade the lungs.

All these microbes — the mycobacteria, classified and unclassified, and the pathogenic fungi are the enemy in a war man has long fought against chronic infectious disease. For more than a half century tuberculosis, the dreaded White Plague, has been diminishing, but it is still far from defeated. More recently, a whole spectrum of other agents has been discovered to confuse the picture greatly.

The identification of the antigens — the "fingerprints" of the diseases caused by these mycobacteria and fungi — will provide science with powerful, precise tools in the search for new weapons to use in the unending war against these destructive diseases of the lung.

SPECTATORS OR PLAYERS—

(Continued from Page 54)

complex art, but unless you participate in it, you will find yourself living under the government of men much less qualified to run things than you are.

3. Be active alumni of the College. You can show your appreciation of the good influence the members of your faculty have had on your lives by supporting the fine work of the College and its teachers.
4. Pay attention to your daily work, your associates, and the people you serve. Form the habit of absorbing all the impressions and facts you can in your daily activities. Make it a habit to get all the important facts you can on which to base your judgments. Sort them and weigh their importance. You will make consistently better decisions if you follow this practice.

This morning we have taken a brief look at the challenges that face each of you as you embark on your chosen career in pharmacy. You are becoming members of an honored and respected profession. You have a reputation for being a group of professional men and women who accept your responsibilities cheerfully, face the issues squarely and resolve them in the interest of providing the best medical care possible. I am confident that you in this graduating class will add lustre to pharmacy's image in the future.

Whatever your particular challenges prove to be, it is obvious that each of you as a citizen and a member of the important health profession must become personally involved in trying to meet them. I hope you will agree that people of your training, intelligence and interests must not look on life as a spectator sport. You must be active, competitive players.

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PHARMACEUTICAL EDITORIAL

DECEMBER JAPhA DEDICATED AS MEMORIAL TRIBUTE TO PRESIDENT JOHN F. KENNEDY

The December, 1963 issue of the Journal of the American Pharmaceutical Association has been dedicated in the memory of John Fitzgerald Kennedy, and the words President Kennedy was to have spoken have been accepted as a challenge to the profession of pharmacy.

The Journal Editorial entitled "The President is Dead" states that the tragic day of November 22nd is attended by anguish and dismay. It is almost inconceivable that John Fitzgerald Kennedy, whose every word and action typified life and youth and strength, is the victim of an assassination. President Kennedy was a man of intellect as well as action. He represented the intelligence and the enthusiasm, the hope and the understanding of our country and our people in what he called in his last address "a very dangerous and uncertain world!"

The APhA Journal Editorial continues — "President Kennedy had understanding words for pharmacy. Only two months ago, he expressed to APhA his feelings that 'the pharmacist is an indispensable link in the chain of national health protection.' Soon after he assumed office, he wrote APhA stating that 'pharmacy is a worthy profession which carries a great burden of responsibility to our country and to the people the world over.' "

"It is this later understanding which was especially pronounced. He knew the problems which divide the world, and the needs for achieving 'peace on earth, good will toward men.' This issue of our Journal, which by coincidence is devoted to our role in achieving these very objectives is dedicated to the memory of John Fitzgerald Kennedy."

The December issue of the APhA Journal, coincidental to the tragic death of President Kennedy, is devoted to the role of U. S. pharmacists around the world as a "vital link in the world-wide struggle with international Communism." It describes the activities of U. S. pharmacists in medical missionaries in Borneo, with U. S. Operations Missions to Taiwan, with the Peace Corps in Bolivia and Togo, with S. S. Hope sailing for Ecuador, and with a floating clinic in Hong Kong, among others.

The December APhA Journal Editorial concludes — "Had he lived but an hour longer, President Kennedy would have concluded an address at the Trade Mart in Dallas, Texas, with these prophetic words which we in pharmacy will accept as a challenge to our profession.

"We in this country, in this generation, are — by destiny rather than by choice — the watchmen on the walls of world freedom. We ask, therefore, that we may be worthy of our power and responsibility — that we may exercise our strength with wisdom and restraint — and that we may achieve in our time and for all time the ancient vision of 'peace on earth, good will toward men.' That must always be our goal — and the righteousness of our cause must underlie our strength. For as was written long ago: 'except the Lord keep the city, the watchman waketh but in vain.' "



ABERDEEN STUDENT RECEIVES WALGREEN SCHOLARSHIP

Ted Westley, Aberdeen, has been named the recipient of a $600 renewable scholarship by Walgreen Drug. Westley is a third-year pharmacy student at South Dakota State College. He is the son of Mr. and Mrs. Vernon Westley, Aberdeen.

PHARMACY STUDENT NAMED TO HONOR SOCIETY

Robert Schnell, Sturgis, was recently initiated into Phi Kappa Phi, national scholastic honor society. Schnell is a fourth-year pharmacy student at South Dakota State College.

Membership in Phi Kappa Phi is limited to students with grade-point averages of 3.25 or better and who are in the upper 10 per cent of their class.

NEWS ITEMS FROM THE ALLIED DRUG TRAVELERS

Notes on the Christmas party: Winners of door prizes at the Travelers' Christmas party, December 6th in Sioux Falls included the following:

Alma Chapman, a wrist watch donated by McKesson and Robbins, Inc., Sioux City; **Mrs. Don Barr,** a wrist watch donated by Brown Drug Co., Sioux Falls; **Mrs. John Kavanaugh,** a clock radio donated by the Drug Travelers; **Mrs. Robert Smith,** a bathroom scale donated by Kreiser's Pharmacy, Sioux Falls; **Cliff Van Hove,** an hot or cold thermal chest donated by Rich Bros., Inc., Sioux Falls; and **Mrs. Les Hetager** and **Wayne Stuck,** each a bottle of champagne donated by Famous Brands, Inc.

The social committee of the Drug Travelers wishes to extend its sincere thanks to **Mary Lou Albaugh** and **Jane Drey,** for their excellent work on table decorations and for taking tickets, and making name tags at the party.

Warren Kemp (G. D. Searle Co.) participated in an advanced sales training course at his company's home office in Chicago, November 18 to 22.

Phil Sabag (Bristol Laboratories) attended a two-day sales seminar in Dallas, Texas, last month.

The Omaha Mid-west Medical Meeting was attended by **Merlyn Albaugh** (Burroughs Wellcome), **Don Evans** (A. H. Robins Co.) and **Gordon Haugen** (Sandoz Pharm. Co.). They assisted with their respective companies' exhibits.

Top ticket sales for the Drug Travelers' Christmas party went to **Jim Drey,** 40 tickets sold, **Merlyn Albaugh,** 35 tickets, and **Don Barr,** 15 tickets.

Secretary's Notes: While browsing through material for new ideas on sales approach and motivation, I came across two questions the most successful men in the sales profession feel are quite pertinent to all basic selling: What outside preparation and study, on your own time, have you done to improve your job? What can I do, today, to improve my service to my customers? The

following verse seemed appropriate in regard to these questions:

Victory

You are the man who used to boast
That you'd achieve the utmost someday,
You merely wished a show
To demonstrate how much you know
And prove the distance you can go . . .
Another year we've just passed through,
And what new ideas came to you?
How many big things did you do?
Time left twelve fresh months in your care.
How many of them did you share
With opportunity and dare?
Again were you so often missed?
We do not find you on the list of makers good.
Explain the fact!
Ah no, 'twas not the chance you lacked!
As usual — you failed to act!

—Anonymous

FDA STATEMENT ON KREBIOZEN ANALYSES

Food and Drug Administration analyses of "Krebiozen" ampules have shown that those sold before 1960 are different from those sold in 1963, and that neither contains any of the powder identified last July by Dr. Stevan Durovic as "Krebiozen." "Krebiozen" (creatine monohydrate) will not dissolve in mineral oil.

Results of the analyses of Krebiozen ampules are contained in an affidavit filed in the Federal District Court at Chicago on December 2. The affidavit was filed in support of the Government's motion to dismiss a complaint for injunction which would halt the investigation of the manufacture and distribution of Krebiozen. The complaint was filed by Dr. Durovic of Promak Laboratories, Chicago, distributor of Krebiozen.

Analyses of Krebiozen ampules shipped before 1960 show they contained nothing but mineral oil, while ampules shipped since then contain mineral oil plus minute amounts of amyl alcohol and 1-methylhydantoin, a derivate of creatine which will dissolve in mineral oil. These amounts vary from two to 12 micrograms of 1-methylhydantoin per ampule and from 0.05 to 0.4 percent of amyl alcohol per ampule.

According to the label of "Krebiozen" ampules, they contain mineral oil and 0.01 milligram (10 micrograms) of "Krebiozen." "Krebiozen" in powder form was positively identified by FDA as creatine monohydrate last September.

The Court scheduled oral arguments December 6.

The ampules of Krebiozen in mineral oil analyzed by FDA scientists included those supplied to its inspectors by Dr. Durovic on May 9 and June 8, 1963, as well as ampules shipped in interstate commerce by Promak Laboratories before 1960.

UNIVERSITY OF MINNESOTA TO OFFER CONTINUATION STUDY PROGRAM

Plans have been completed for the 24th annual Continuation Study Program in Pharmacy at the University of Minnesota, February 12 and 13, 1964. The program will be held at the Center for Continuation Study on the University campus.

Registration fee is $20 per person and includes two luncheons and the Samuel W. Melendy Memorial Lecture and Banquet. Featured speaker at the banquet will be Dr. W. Paul Briggs, executive director of the American Foundation for Pharmaceutical Education.

Room and parking reservations may be made at the time of registration. Extra tickets for the banquet are available at $5 each.

The course has been designed to meet the need of community practitioners of pharmacy and other members of the profession. Speakers come from diverse backgrounds and will present a wide variety of subjects.

in virtually all diarrheas...prompt symptomatic control

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TABLETS / LIQUID—Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . 2.5 mg.
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Lomotil controls the basic physiologic dysfunction in diarrhea—excessive propulsive motility. Pharmacologic evidence indicates that it does so by directly inhibiting propulsive movements of the intestines. This direct, well-localized activity controls diarrheas of widely varied origin and does so promptly, conveniently and economically.

The relatively few conditions in which Lomotil has given less than satisfactory control have been, for the most part, those such as severe ulcerative colitis in which too little anatomic or functional capacity of the intestines remains for the motility-lowering action of Lomotil to have effect.

It should be noted, however, that Lomotil has proved highly useful in mild to moderate ulcerative colitis and in several other refractory forms of diarrhea.

The recommended initial adult dosage is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. *Children's* daily dosage (in divided doses) varies from 3 mg. for a child of 3 to 6 months to 10 mg. for one 8 to 12 years of age. Lomotil is an exempt narcotic; its abuse liability is low and comparable to that of codeine. Recommended dosages should not be exceeded. Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. Lomotil is a brand of diphenoxylate hydrochloride with atropine sulfate; the subtherapeutic amount of atropine is added to discourage deliberate overdosage.

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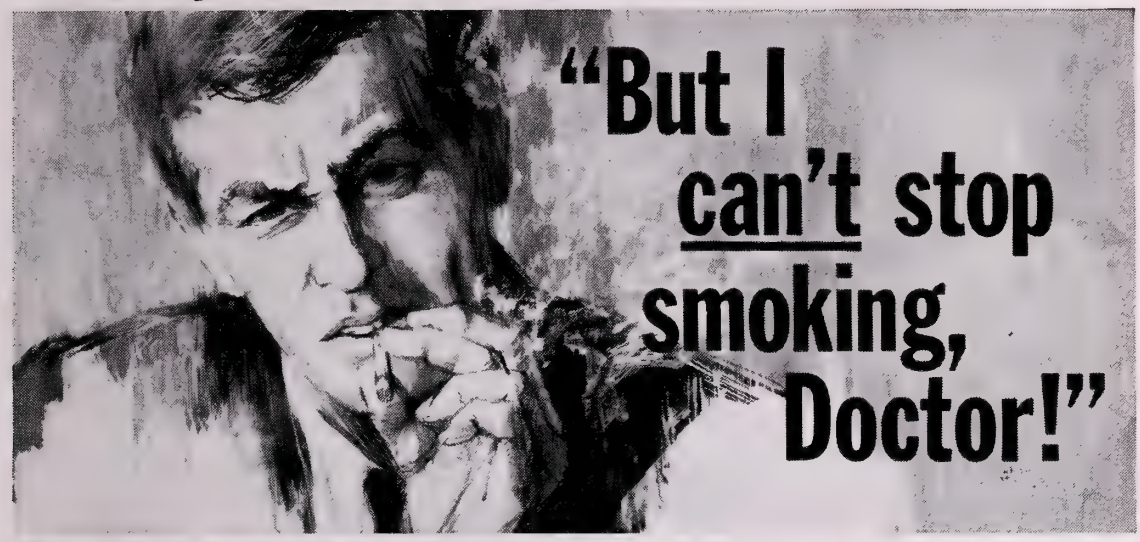
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References: 1. Goodman, L. S. and Gilman, A.: The Pharmacological Basis of Therapeutics, New York, Macmillan, 1960, Ed. 2, pp. 620-622; 2. Edmunds, C. W.: J. Pharmacol. and Exper. Therap., 1:27, 1909; 3. Hazard, R. and Savini, E. Gand., 92:471, 1963. 4. Dorsey, J. L.: Ann. Int. Med., 10:628, 1936; 5. Rasmussen, K. B.: Ugeskr.laeger, 118:222, 1956; 6. Ejrup, B.: Sven. lak. Tid., 53:2634, 1956; 7. Jochum, K. and Jost, F.: Munch. med. Wchnschr., 103:618, 1961; 8. Jost, F. and Jochum, K.: Med. Klin., 54:1049, 1959; 9. Smoking and Health, Summary and Report of the Royal College of Physicians of London on Smoking. New York, Pitman, 1962.

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Precautions and contraindications: Patients with tuberculosis or those who are known to be sensitive to iodides should not be given Pediacof.

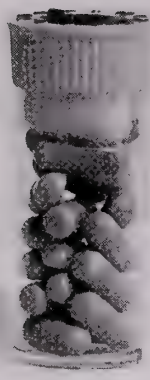
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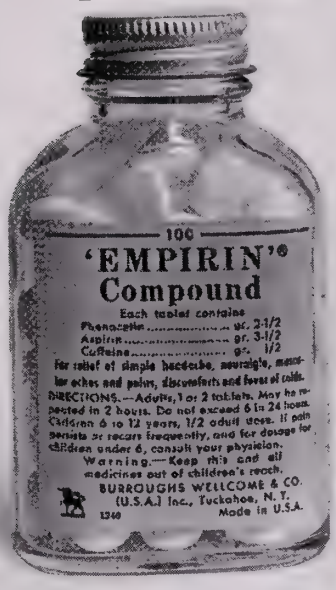
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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

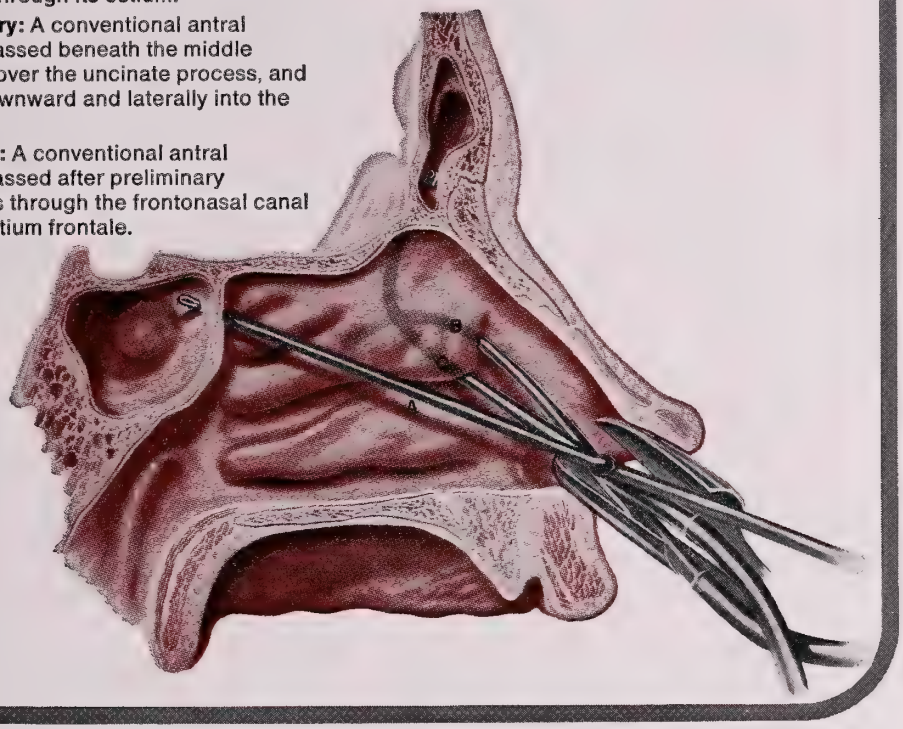
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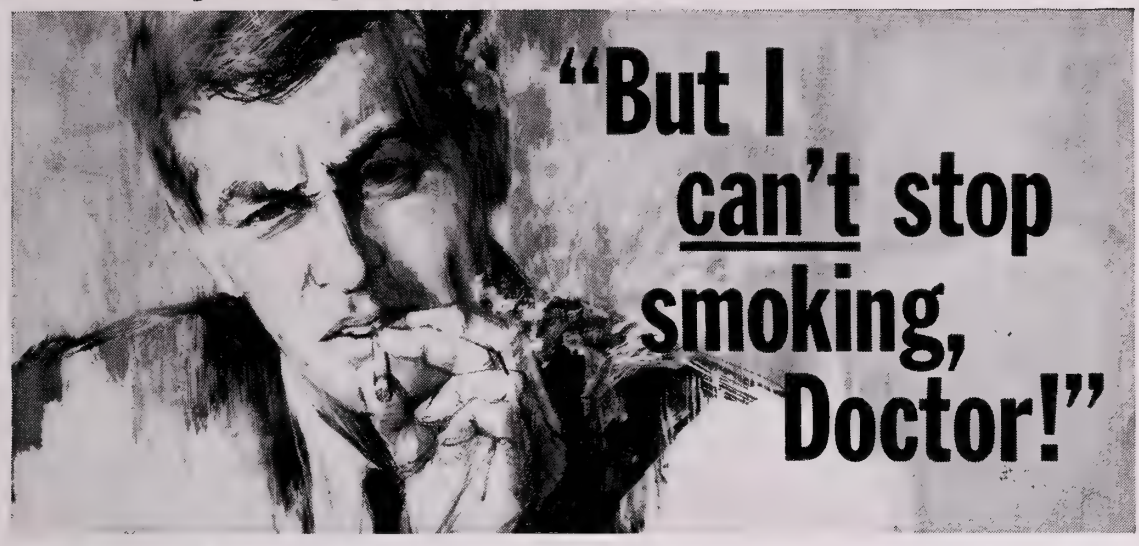
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who were the "untreatables"?

From their inception with cortisone, to the present-day variants of the steroid molecule, the corticosteroids have presented a therapeutic paradox. The beneficial action against inflammation and allergy as well as several undesirable metabolic effects are all, apparently, the results of the same basic physiologic action.[1]

Some of these associated metabolic reactions made it risky or otherwise undesirable to treat with steroids large numbers of patients in various categories who would otherwise have benefited from such management. These "untreatables" were overweight, had cardiac disease, hypertension, or pulmonary fibrosis associated with congestive heart failure. Also in this category were those patients whose emotional symptoms were aggravated by earlier steroids.

But the advent of ARISTOCORT® Triamcinolone in 1958—the result of biochemical and pharmacologic research which successfully stripped away many important undesirable hormonal effects from the primary anti-inflammatory action—dramatically changed this picture. This steroid did not overstimulate the appetite, or cause the excessive weight gain induced by other steroids;[2-7] it proved to have one of the best records of any steroid for *not* causing edema, or salt-and-water retention;[2,3,7-10] and the incidence of undesirable euphoria with this agent was remarkably low.[2,4,5,9,10] What is most significant is that these benefits have stood the test of more than 5 years of widespread use. And, of course, the avoidance of these distressing hormonal effects benefited *all* patients requiring steroids, not just those in the special categories, as demonstrated by wide clinical use.

Side Effects. Since it may, under some circumstances, produce any of the unwanted effects common to all cortisone-like drugs, discrimination should always be exercised in administering ARISTOCORT® Triamcinolone. Any of the Cushingoid effects are possible, as are purpura, G.I. ulceration, increased intracranial pressure and subcapsular cataract. Corticosteroids generally may mask outward signs of bacterial or viral infections. Catabolic effects to watch for include muscle weakness and osteoporosis. Weight loss may occur early in treatment but is usually self-limiting.

Contraindications. While the only absolute contraindications are tuberculosis and herpes simplex, there are some relative contraindications (peptic ulcer, glomerulonephritis, myasthenia gravis, osteoporosis, fresh intestinal anastomoses, diverticulitis, thrombophlebitis, psychic disturbance, pregnancy, infection) to weigh against expected benefits.

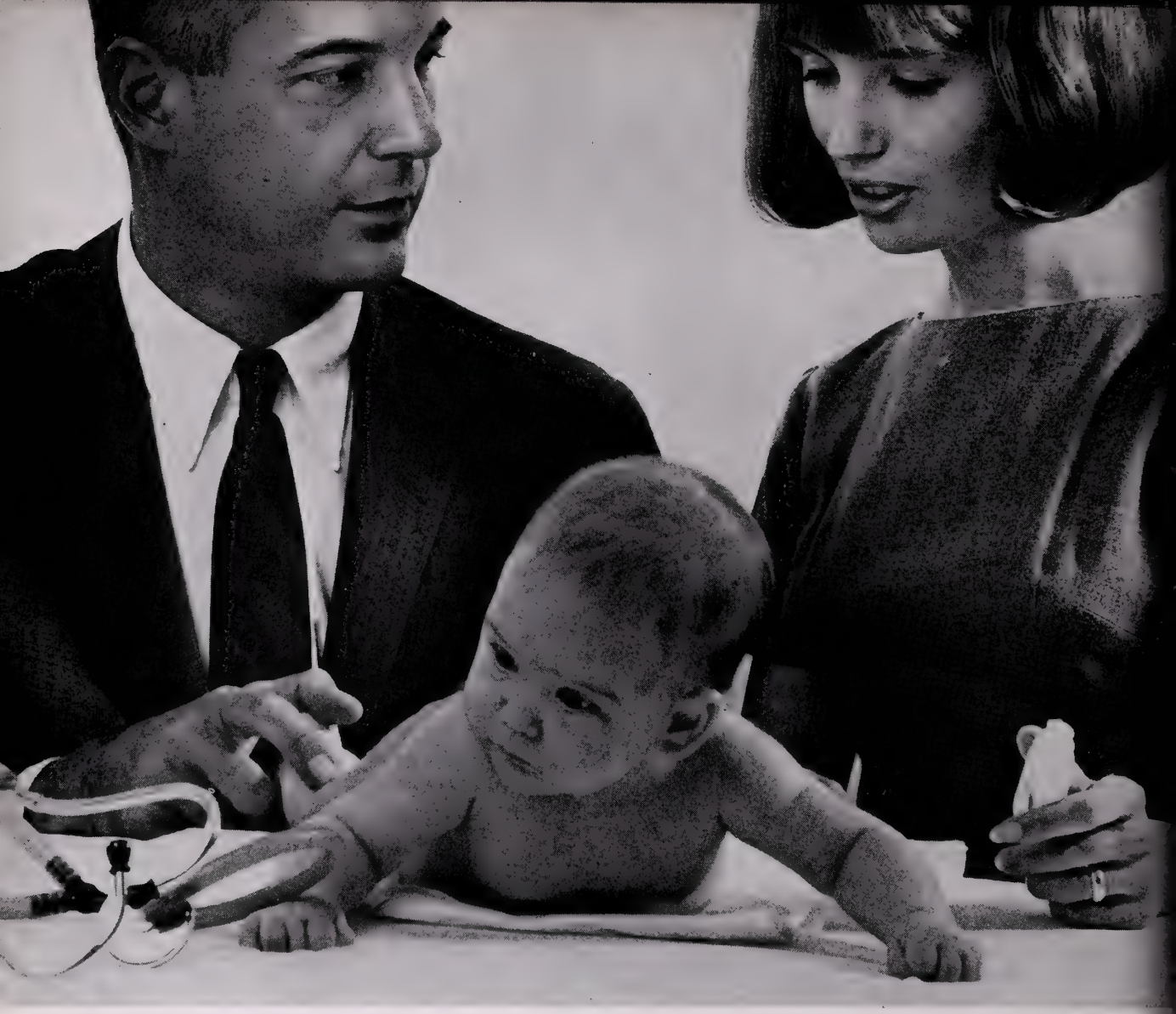
While no steroid can *cure* a susceptible disorder, many patients who would otherwise be confined in a state of invalidism have, on ARISTOCORT® Triamcinolone, been able to pursue active, useful lives.

References: 1. Levine, R.: Rationale for the Use of Adrenal Steroids, Paper presented at Annual Convention, Medical Society of the State of New York, New York, May 13-17, 1963. 2. Hollander, J. L.: Clinical Use of Dexamethasone. *JAMA 172*:306 (Jan. 23) 1960. 3. Boland, E. W.: Chemically Modified Adrenocortical Steroids. *JAMA 174*:831 (Oct. 15) 1960. 4. McGavack, T. H.: The Newer Synthetic Adrenocortical Steroids in Therapy. *Nebraska Med. J. 44*:377 (Aug.) 1959. 5. Freyberg, R. H.: Berntsen, C. A., Jr., and Hellman, L.: Further Experiences with Δ1, 9 Alpha Fluoro, 16 Alpha Hydroxyhydrocortisone (Triamcinolone) in Treatment of Patients with Rheumatoid Arthritis. *Arthritis Rheum. 1*:215 (June) 1958. 6. Cahn, M. M. and Levy, E. J.: Triamcinolone in the Treatment of Dermatoses. *Amer. Practit. 10*:993 (June) 1959. 7. AMA Council on Drugs: New and Nonofficial Drugs. *JAMA 169*:255 (Jan. 17) 1959. 8. McGavack, T. H.; Kao, K.-Y. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: Clinical Experiences with Triamcinolone in Elderly Men. *Amer. J. Med. Sci. 236*:720 (Dec.) 1958. 9. Fernandez-Herlihy, L.: III. Use and Abuse of Corticosteroid Therapy—The Structure and Biologic Activity of the Corticosteroid Hormones and ACTH, *Med. Clin. N. Amer. 44*:509 (Mar.) 1960. 10. McGavack, T. H.: Triamcinolone: A Potent Anti-inflammatory Sodium Excreting Adrenosteroid. *Clin. Med. 6*:997 (June) 1959.

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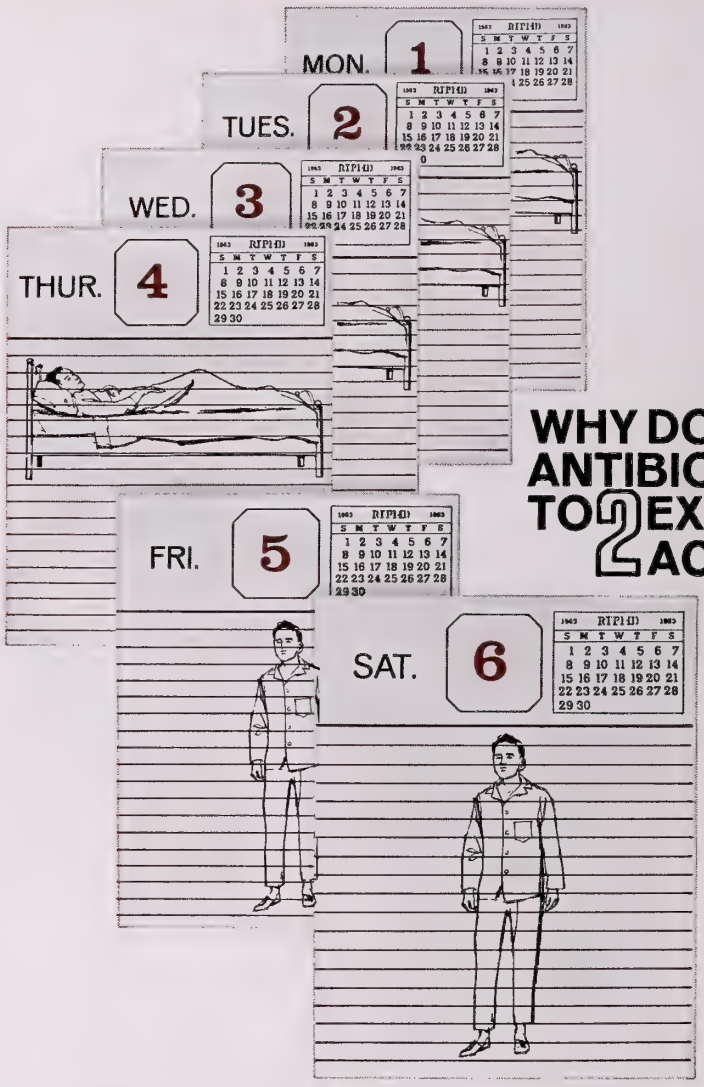
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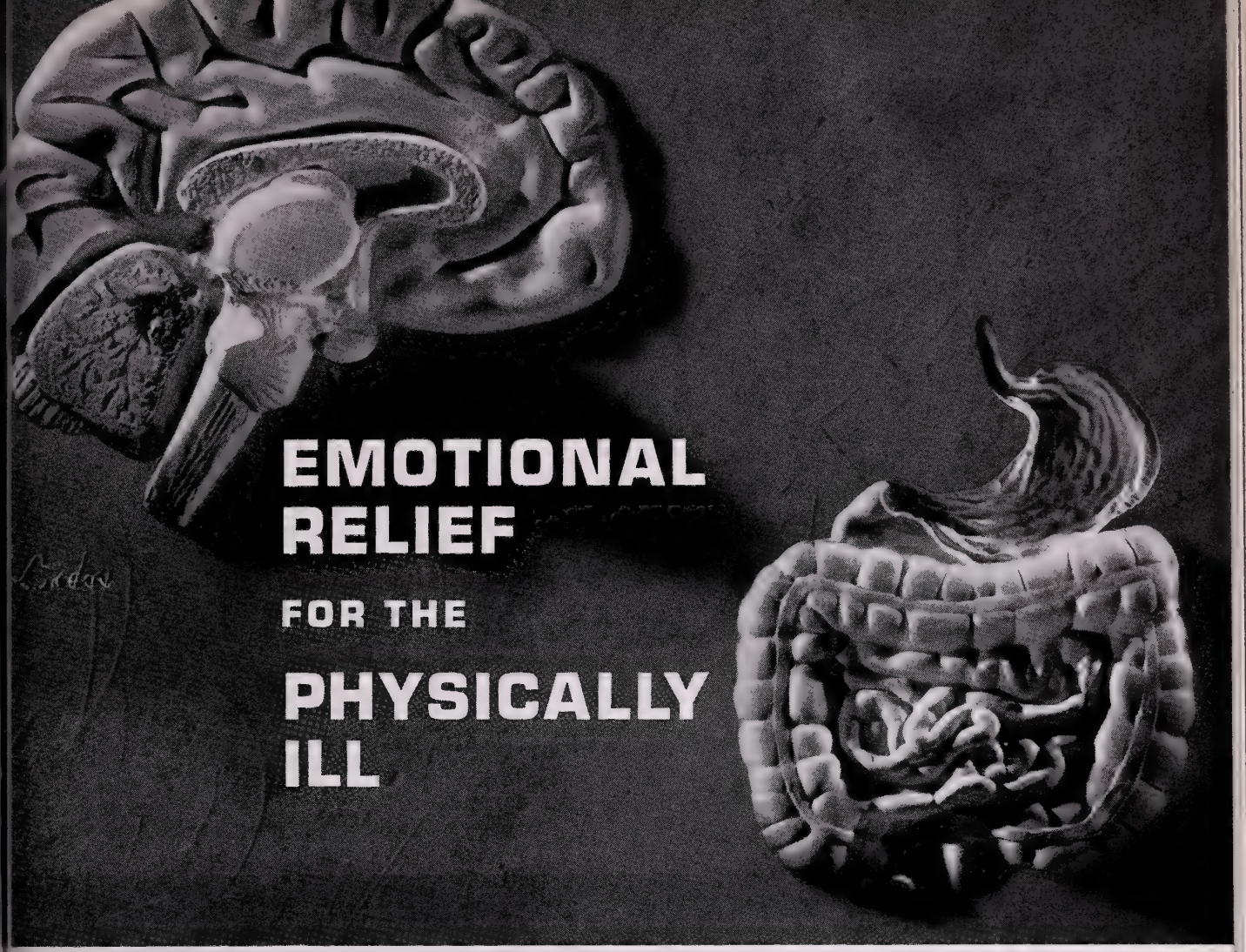
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Precautions: Should administration of meprobamate cause drowsiness or visual disturbances, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage.

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Supplied: 'Meprospan'-400 (meprobamate 400 mg.), 'Meprospan'-200 (meprobamate 200 mg.), each in sustained-release capsules. Both potencies in bottles of 30.

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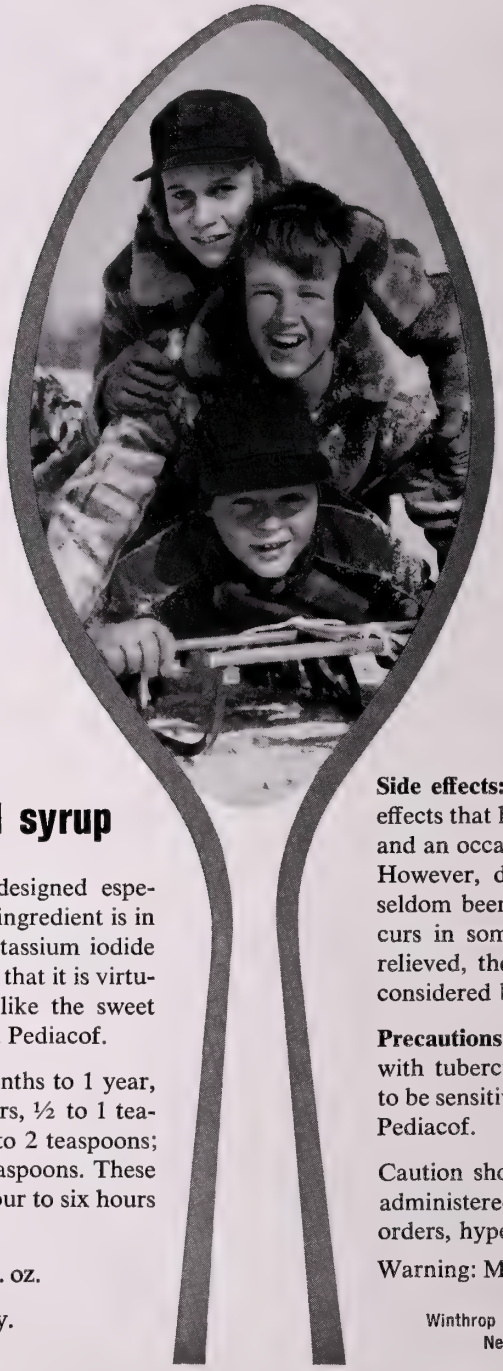
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bright red, pleasant-tasting, raspberry-flavored syrup

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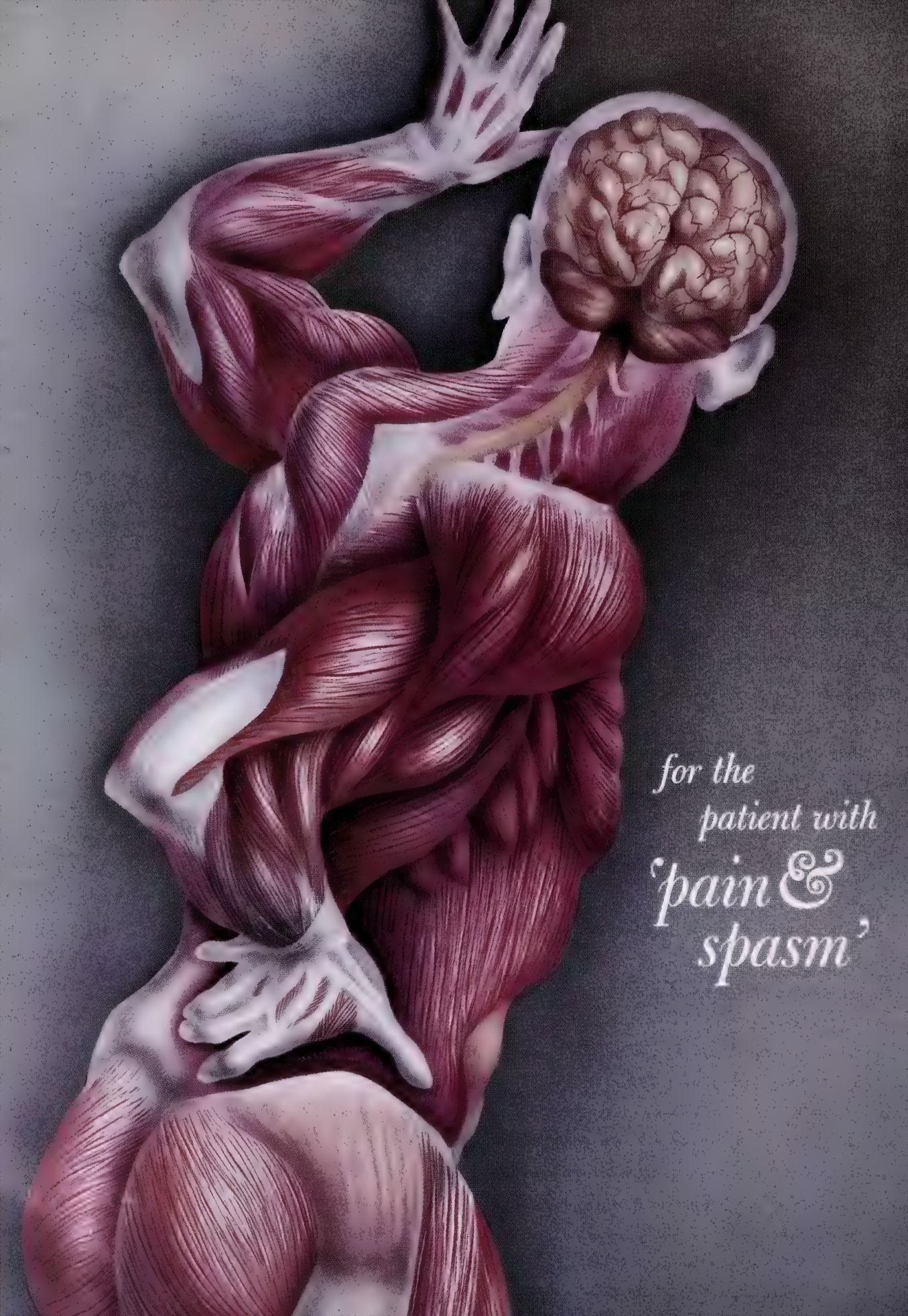
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16.2 mg. (¼ gr.)	phenobarbital	(¾ gr.) 48.6 mg.

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—a two-headed dragon!

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Side effects such as lightheadedness, slight drowsiness, dizziness and nausea may occur rarely in patients with intolerance to drugs, but they usually disappear on reduction of dosage.

Contraindicated for patients hypersensitive to any component of the formulations. There are no specific contraindications to methocarbamol, and untoward reactions are not to be expected.

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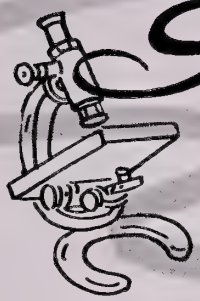
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Scientific PAPER

The Juxtaglomerular Apparatus

by

W. O. Read, Ph.D.
Professor of Physiology
and
J. D. Welty, Ph.D.
Instructor in Physiology
School of Medicine
University of South Dakota
Vermillion, South Dakota

In 1925, Ruyter[1] described a group of morphologically differentiated cells located at the vascular pole in the kidney of the mouse. Oberling[2] reported the presence of similar cells in the human. Groomaghtigh[3] later drew attention to a group of afibrillar cells in the arteriolar wall of the vas efference, close to the glomerulus, which he named "juxtaglomerular neuro-myoarterial segment or apparatus." Zimmerman[4] referred to the same cells as "Polkissen."

The juxtaglomerular apparatus consists of two (or three) cellular components. (Fig. 1). One component is formed from cells of the ascending loop of Henle where, returning

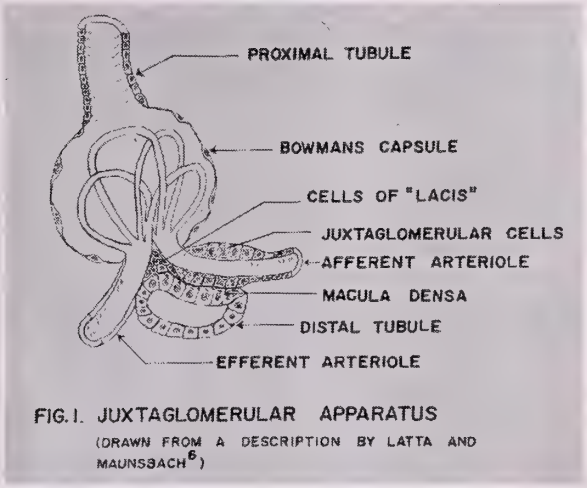


FIG. I. JUXTAGLOMERULAR APPARATUS
(DRAWN FROM A DESCRIPTION BY LATTA AND MAUNSBACH[6])

(Figure 1)

to its own glomerulus, the tubule comes in close contact with the wall of the afferent arteriole. This portion of the wall of the nephron, exhibiting a concentration of

nucleii, constitutes a structure termed the "macula densa." The second group of cells, the juxtaglomerular cells, constitute cells of the media of the afferent arteriole of the glomerulus in the region of the vascular pole. The nucleii of these cells are rounded, and the cytoplasm contains granules instead of myofibrils. The internal elastic lamina of the afferent arteriole disappears at the site where the juxtaglomerular cells are present, therefore the cells are in close contact with the blood in the lumen of the arteriole. A possible third group of cells constitute the "cells of lacis" of Oberling or the "pseudomeissnerian" cells of Goormaghtigh. These cells lie in the concavity between the afferent and efferent arteriole. They constitute a curious aggregation of small cells with pale elongated nucleii and each bearing a large and prominent Golgi system. They may be related to the juxtaglomerular granular cells and both may be derived from smooth muscle.[5]

Morphological alterations of the juxtaglomerular apparatus in physiological and pathological conditions led to the early suggestion that the functional role of this structure was to act as a feedback from the distal tubule to the afferent arteriole thus controlling blood flow to the glomerulus and regulating urine formation at the glomerulus. Recent evidence suggests that the juxtaglomerular apparatus may subserve important and diverse functions related to homeostasis. The present paper is given as a review of evidence suggesting the possible function of the juxtaglomerular apparatus.

In 1934, Goldblatt et al. made the important observation that constriction of the main artery to one kidney resulted in an elevation of blood pressure. Subsequent work showed that a humoral substance from the ischemic kidney was the most probable mechanism in the production of the hypertension.

The search for such a humoral substance was directed by the earlier observation of Tiegerstedt and Bergman that saline extracts of rabbit kidneys possess a pressor material which they called "renin." By 1938 several groups had confirmed the existence of an extractable pressor substance in the kidneys of dogs and humans. Braun-Menendez et al. were able to partially isolate the pressor substance from renal plasma of ischemic kidneys and it was subsequently shown that renin from the kidney acted enzymatically upon an a-2 globulin from plasma to liberate a pressor substance now called angiotensin. The a-2 globulin (renin substrate) has been purified and synthesized. The pressor substance, angiotensin, has been isolated in pure form, its amino-acid composition and sequence have been determined and it has been synthesized. Skeggs et al. showed the presence of two forms of angiotensin, I and II, and demonstrated a "converting enzyme" in plasma responsible for transforming angiotensin I to II (Fig. 2). Angiotensin II is a powerful vaso-constrictor, about 10 times that of norephinephrine.

The site of renin production in the kidney was first suggested when Goormaghtigh and Grimson noted hyperplasia and hypertrophy of the juxtaglomerular apparatus in the kidney made ischemic by constriction of the renal artery. They suggested that the juxtaglomerular cells were the site of renin production, and there is now much evidence to warrant such a conclusion. Probably, the most specific technique for localizing renin is that of coupling a fluorescein dye to a specific antibody. In the work of Edelmann and Hartroft, antirenin, prepared by parenteral injection of hog renin into dogs, was coupled to fluorescein dyes and used to stain the renin of dog kidneys. Staining was limited to granules of the juxtaglomerular cells. Such evidence constitutes strong support for localization of renin in the granules of the juxtaglomerular cells. Hypotensive drugs, hemorrhagic shock, constriction of the renal artery, all produce granularity of the juxtaglomerular cells, which is interpreted as an increase in renin production and release. High renal perfusion pressure produce degranulation of the cells and presumably, decreased renin production.

While the juxtaglomerular apparatus of the kidney and the renin-angiotensin system emerged from efforts to understand the etiology of essential hypertension, the role of this system in hypertension immediately became suspect. Tacquini first called attention to this fact when he failed to find an increase in the renin content of the kidneys of chronic renal hypertensive dogs and rabbits. The per-

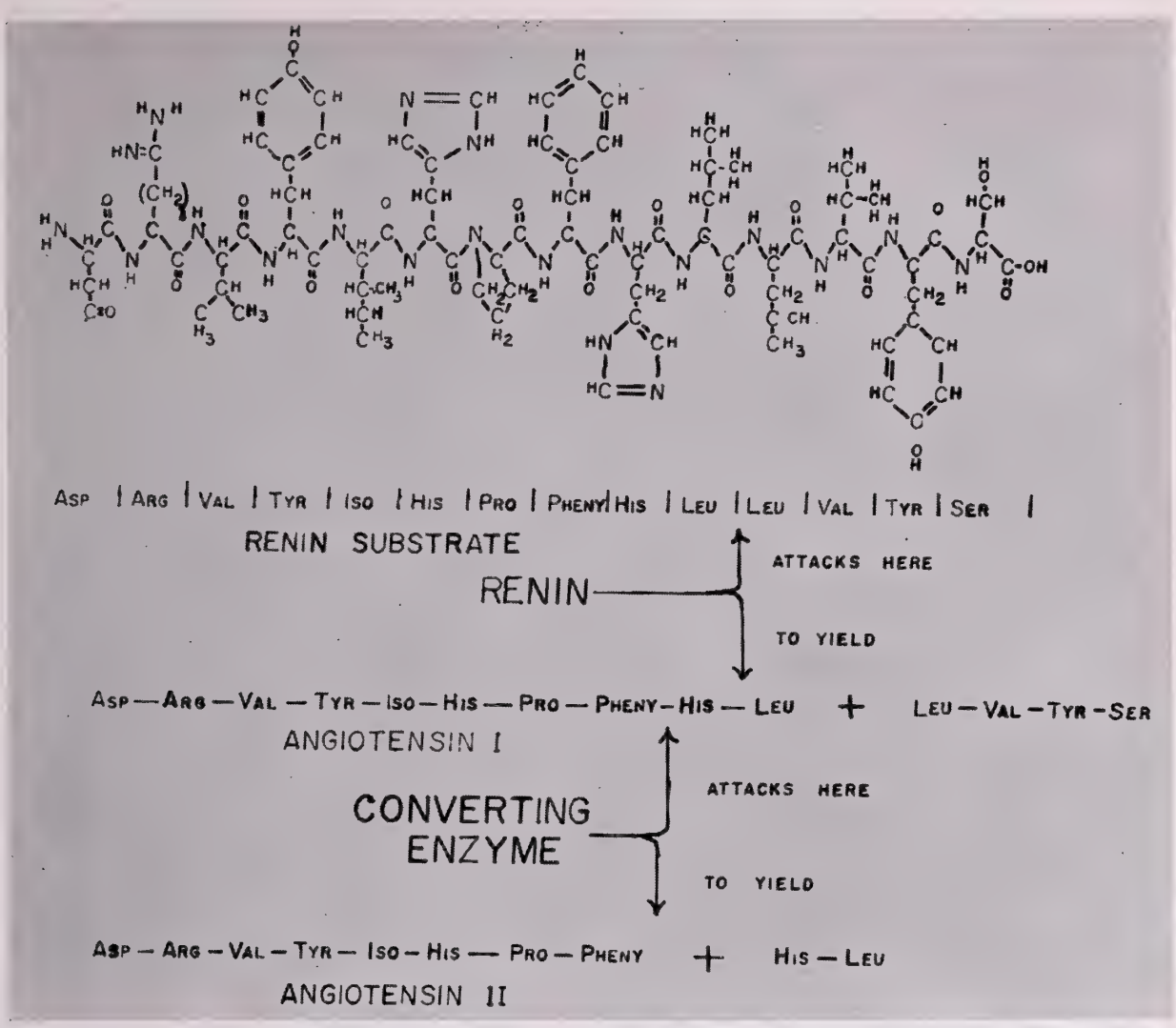
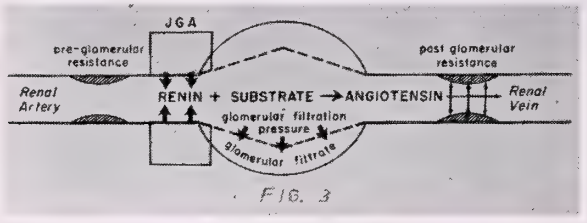


Figure 2. Role of renin-angiotensin in intrarenal hemo-dynamics. Renin formed at the vascular pole of the glomerulus, produces angiotensin, which then acts to constrict the efferent glomerular vessel. It thus forms a check mechanism across the glomerulus between the pressure-sensitive juxtaglomerular cells and the post glomerular vascular resistance. (Reproduced from Schmid, H. E., Circulation Research 11:185, 1962).

sistence of chronic hypertension after total nephrectomy suggested that the kidneys were not responsible for maintaining a chronic hypertensive state. More recently Blaquier et al. were unable to find pressor material in the blood of chronic renal hypertensive rats. Of some importance to this point is an interesting experiment of Tobian et al. who produced hypertension in rats by clipping the renal artery, a procedure which increases the granularity of the juxtaglomerular cells and renin secretion. When hypertension was well established in these rats, DOCA administration caused disappearance of the granules and renin, but the hypertension persisted. This was taken to mean that the hypertensive state was maintained by some means other than the renin-angiotensin system.

While the role of the renin-angiotensin system in the production and maintenance of hypertension is equivocal, the existence of this system cannot be denied and requires a definition of its physiological role. It would appear that any factor which decreases blood flow to the kidney; a clamp on the renal artery, hemorrhage, serves as a stimulus to increased granularity of the juxtaglomerular cells and increased renin production. This was indeed proposed by Garber et al. who suggested that the granulation of the juxtaglomerular cells responds inversely to

changes in renal blood flow. It should be pointed out that the latter authors did not actually measure blood flow but inferred this from blood pressure measurements. This can be a dangerous generalization and one not always substantiated by actual blood flow measurements. Indeed, actual blood flow and blood pressure measurements during infusion of angiotensin II show that this compound will increase blood flow to the kidney, indicating dilatation (unpublished observations by Dr. Geber in his laboratory). In any event, the implication is that the renin-angiotensin system serves as a homeostatic mechanism to maintain blood flow to the kidney at a time when the circulating blood volume and pressure are deficient. Certainly, the intense vasoconstrictor property of angiotensin II cannot be ignored and must be fitted into any scheme involving this system. In an interesting study, Schmid concluded that the renin-angiotensin system functions only as a regulator of intrarenal hemodynamics. As interpreted by this investigator, decreased renal blood flow leads to renin release, angiotensin formation, and constriction of the efferent arteriole in order to maintain glomerular filtration. (Fig. 3). The filtration fraction would necessarily increase. Finnerty



(Figure 3)

et al. reported an increase in the filtration fraction with injected angiotensin II and Genest et al. showed that amounts of angiotensin II too small to produce a change in blood pressure would indeed maintain the glomerular filtration rate. In addition, it would seem a requirement of Schmid's hypothesis that the small amount of angiotensin II formed by activity of the juxtaglomerular cells should be destroyed by plasma angiotensinase before leaving the kidney or that it leave the kidney in such small amounts as to have no effect on the systemic blood pressure. The studies of Peart et al. would suggest that vasoconstrictor material does not leave the kidney normally in sufficient quantities to affect blood pressure.

There is ample evidence that sodium deficiency or adrenalectomy cause an increase in the granulation of the juxtaglomerular cells. With sodium deficiency, Pitcock and Hartcroft noted that the degree of granularity paralleled the width of the zona glomerulosa of the adrenal cortex, suggesting a relationship between the juxtaglomerular cells and the secretion of aldosterone. The Hartrofts further showed that the granularity of the juxtaglomerular cells was independent of pituitary control, as is the zona glomerulosa. Conversely, desoxycorti-costerone or high sodium administration caused the virtual disappearance of the granules in the juxtaglomerular cells. By 1957, it was evident that the granularity of the juxtaglomerular cells was related to the circulating mineralocorticoids. In 1959, evidence was obtained for the existence of an aldosterone stimulating factor in peripheral blood and it was shown that the factor was secreted by the kidney. Earlier, it had been reported that renin injections caused hypertrophy of the adrenal zona glomerulosa and Davis et al. showed that the aldosterone-stimulating activity of crude kidney extracts was confined to the renin fractions. Katz et al. reported that angiotensin II caused increased granularity of the juxtaglomerular cells and Genest et al., Laragh et al., Mulrow and Ganong, and Mulrow et al. all reported that synthetic angiotensin II increased aldosterone secretion. Carpenter et al. was able to show that the effect was due to direct action of angiotensin II on the adrenal cortex and not mediated through the pituitary. According to Davis, the juxtaglomerular cells constitute the so called "volume receptors" which, through control of aldosterone secretion, control sodium reabsorption in the kidney tubule and secondarily the volume of water in the body. Smith earlier had given a very convincing argument that such volume receptors were located in the left atrium and operated through the antidiuretic hormone from the posterior pituitary. Nevertheless, the existence of such volume receptors for the control of total body water seems necessary. In as much as the group at the National Institutes of Health have employed classical methods of

endocrinology in carefully controlled experiments, it would seem that the role of the granular cells of the juxtaglomerular apparatus and angiotensin II in the control of aldosterone secretion rests on secure evidence. However, to incorporate this system into a total balanced homeostatic mechanism is more difficult. For instance, although Carpenter et al. have shown that angiotensin II in doses too small to affect blood pressure will stimulate aldosterone secretion, the intense vasoconstriction property of angiotensin II cannot be ignored in any explanation of its physiological role.

In our own laboratory, we are approaching this problem in a way which may serve to explain both properties of angiotensin. Friedman et al. have shown that the kidneys of the salt water fish contain no renin, while the kidneys of fresh water fish, which must conserve sodium, contain abundant amounts of renin. Increased granularity of the juxtaglomerular cells and renin content of the kidney occurs in conditions which demand renal conservation of sodium and water. If, as Davis et al. suggest the renin-angiotensin system regulates aldosterone secretion by the adrenal cortex, this places the juxtaglomerular cells as possible receptor organs which bring about tubular reabsorption of sodium and urine concentration. It is a simple procedure to show that during dehydration, when salt and water must be conserved, blood is shunted from the cortical nephrons to the long straight vasa recta of the medulla consistent with the counter-current mechanism of urine concentration (Fig. 4). Such complete shut-down of renal cortical blood flow requires a powerful vasoconstrictor acting locally but which, in amounts too small to affect systemic blood pressure, will stimulate aldosterone secretion. Such a role would explain many of the known responses to angiotensin including the large increase in renal blood flow.

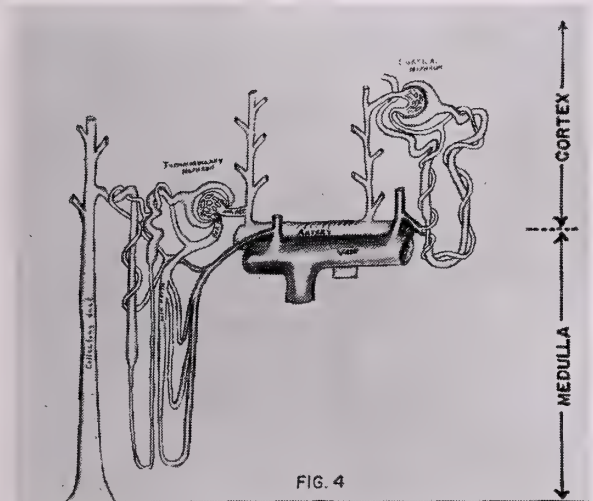


FIG. 4

A CORTICAL AND JUXTAMEDULLARY NEPHRON SHOWING THE MEDULLARY CIRCULATION.
(REDRAWN FROM MAXWELL, ET AL.[91])

(Figure 4)

A third suggested role of the juxtaglomerular apparatus involves erythropoiesis. Carnot and Deflandre first suggested in 1906 that a humoral factor was responsible for stimulating erythropoiesis in the bone marrow. The experiments of Reissman on parabiotic rats clearly demonstrated a humoral factor in erythropoiesis and subsequent work by many investigators firmly established that a substance produced in the kidney called erythropoietin, functions as a hormone which regulates erythropoiesis in the bone marrow. More recently, Reichlin and Harrington using hypophysectomized rats to depress normal endogenous erythropoietin, have succeeded in detecting the hormone in plasma. Additional studies served to localize the site of production of the erythropoietic stimulating factor. Takaku et al. reported that constriction of the renal artery stimulated erythropoiesis and increased the erythropoietin titer of plasma. Hirashima and Takaku and Goldfarb and Tobian reported good correlation between the granularity of the juxtaglomerular cells and the plasma levels of erythropoietin. Finally, Fisher and Crook reported that angiotensin stimulated erythropoiesis in hypophysectomized - adrenalectomized rats. The suggestion is that the juxtaglomerular cells, through the renin-angiotensin system, control erythrocyte production in the bone marrow.

The possible role of the juxtaglomerular cells in the control of erythropoiesis rests upon rather insecure grounds. It is not difficult to show that an erythropoietic substance is produced by the kidneys. However, the identity of the erythropoietic substance as angiotensin is far from proven. Rambach et al. showed that erythropoietin was a glycoprotein, angiotensin is not. Other studies

consistently bring out the fact that there are probably two humoral factors in erythropoiesis, a thermostable, ether soluble agent which stimulates erythroblastic cellular division and a thermolabile, ether insoluble factor which stimulates hemoglobin synthesis. Most situations which are used to increase erythropoietin production, act to stimulate renin production and aldosterone secretion. Increased granularity of the juxtaglomerular cells may be only an attendant phenomenon to erythropoiesis. Finally, in the work of Fisher and Crook, angiotensin was only one of several hormones which stimulated erythropoiesis. This may represent only a non-specific effect of the substance.

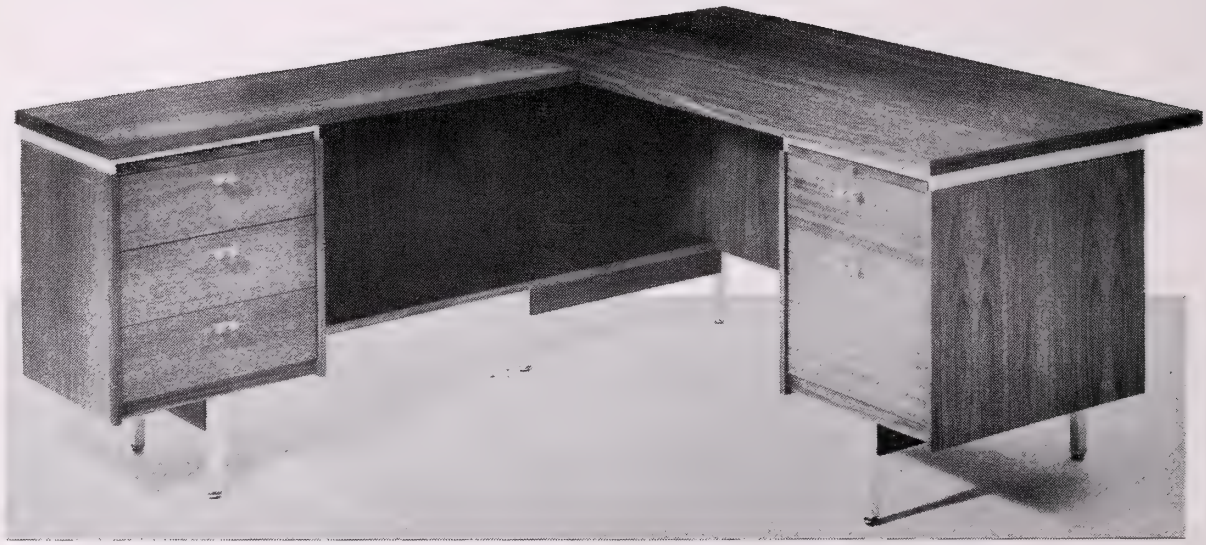
The above review has served to call attention to an interesting group of cells in the kidney which may have an important physiological role in homeostasis. Ever since the animal organism chose to reside on dry land, the tremendous burden of salt and water conservation has been borne by the kidney. It would seem reasonable to expect that an exquisitely sensitive sensing and controlling device be placed in that organ. The juxtaglomerular apparatus may be that device.

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EDITOR'S NOTE: Due to space limitation, the remainder of the references have been omitted. However, they are on file in the Journal office and are available on request from the Assistant Editor, 711 North Lake Avenue, Sioux Falls,

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DIZZINESS

by

G. O. Proud, M.D.*

While he is awake, man is constantly aware of his position with regard to the surrounding environment. He is able to attain and maintain almost any posture and he is able to carry out many fine, graceful movements such as walking, writing, dancing, swimming and playing tennis. Such movements may be accomplished only through a constant muscle tonus, and this is dependent upon a constant barrage of electrical impulses from the central nervous system. The latter in turn requires a tremendous amount of information so that such signals may be delivered. Such information comes from many sources. The eyes, the touch receptors in the soles of the feet, the proprioceptive receptors in muscles, tendons and joints, and the static labyrinths are all organs capable of delivering such information to the brain. When something goes wrong with one of these systems the patient becomes aware of the symptom of dizziness, unsteadiness or vertigo. It is therefore apparent that the patient who presents with any of these complaints deserves a thorough investigation of the entire vestibulocerebellar complex.

The vestibular ganglion is located in the internal auditory meatus and its cells are bipolar. The peripheral fibers pass to the receptors in the cristae of the semicircular canals, the utricle and the saccule. The function of the canals is to make the subject aware of angular acceleration, the utricle in-

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forms him of linear acceleration and the saccule gives him an awareness of vibratory phenomena. The central fiber is also known as the first vestibular neuron, and it proceeds to the brain stem and to the floor of the fourth ventricle where the vestibular nuclei are found. Some of the fibers, however, pass directly to the cerebellum. The second neuron, after leaving the nuclei, enters the median longitudinal fasciculus. The fibers may ascend or descend and may be either crossed or ipsilateral. In any case, the ascending ones pass to the occulomotor nuclei, and these are the pathways for nystagmus. Above the level of the eye muscle nuclei the vertigo pathways are for the most part unknown. Present information would indicate that the distribution is largely to the contralateral temporal lobe.

If the vertiginous patient is to be helped a simple prescription for "sea sick medication" may not be enough. The entire vestibulocerebellar complex deserves investigation. Certain combined tests will save much time and yield a great deal of information. The Romberg test will help in some measure to differentiate between a peripheral and a central lesion. A patient with a recent vestibular paralysis will fall toward the side of the paralyzed labyrinth. The labyrinths put out a constant electrical discharge at the rate of 12 impulses per second and are responsible for the tonicity of the muscles on that side of the body. If the labyrinth is paralyzed the resting discharge is interrupted and the patient falls, or rather feels as if he is pushed, to the side of the lesion. The patient with a lesion in the vermis will usually fall forward or backward. A patient with a lesion in the cerebellar hemisphere will usually fall in the direction of the lesion, however, the direction of fall in cerebellar lesions is not of definite localizing value. Almost all patients with cerebellar disease, however, will at least exhibit unsteadiness. On the blindfold gait test the patient will also fall to the side of a paralyzed labyrinth for the same reason. The finger-to-nose test will assess fine muscle motion which is controlled and reinforced by the cerebellar hemispheres. The patient with current vestibular disease will usually past-point to the side of the disease. If the lesion is in the vermis there will often be bilateral asthenia without drift. If the lesion is in the hemisphere the asthenia will be homolateral.

Optokinetic and post-caloric nystagmus should also be observed. A unidirectional nystagmus is usually of peripheral origin and the quick component beats in the direction of the unaffected side. A multidirectional nystagmus is usually of central origin, and the difficulty is usually to be found in the posterior fossa. The optokinetic response may be tested with a metal carpenter's tape pulled from its spool. It is normally present. When absent it may indicate a lesion of the frontal or parietal lobe.

In testing for positional nystagmus the patient should lie supine with the head hanging over the end of the table, first to the right and then to the left. If the nystagmus appears after a latent period of several seconds, is associated with vertigo and is fatigable, it is of benign origin but the exact cause is unknown. Such a situation is known as paroxysmal postural vertigo. If the nystagmus appears without a latent period, is not associated with vertigo and is not fatigable, it indicates a lesion irritating the vestibular nuclei in the floor of the fourth ventricle.

Post-caloric nystagmus may be easily tested for with 3 cc of ice water delivered to the surface of the tympanic membrane over a period of 3 seconds. The patient should be placed supine with the head 30 degrees above the horizontal plane. Such a stimulus will ordinarily provoke a nystagmus which will last from 50 seconds to 3 minutes after the onset of douching. Absence of reaction on one side may indicate a lesion of the peripheral end-organ, or the eighth nerve. Such a lesion may be produced by drug toxicity of which Streptomycin is a glowing example. It may also be produced by trauma to the head, virus infections, chronic middle ear disease or tumors of the auditory nerve. Meniere's Disease is another cause. A prolonged, erratic post-caloric response may indicate a lesion in the roof of the fourth ventricle of the opposite side. In this area the fastigial nucleus is located; and this nucleus, by means of the hook bundle, exerts an inhibiting effect upon the vestibular nuclei of the opposite side, much as does the vagus

nerve upon the heart rate. Another abnormal post-caloric finding which may be observed is that of perversion of nystagmus. If the horizontal canal is stimulated and one sees a vertical nystagmus rather than a horizontal one, this is referred to as perversion phenomenon. It suggests a lesion in the floor of the fourth ventricle which partially, but not completely, is destroying the vestibular nuclei. Apparently, in such a situation the superior nucleus of Bechterew remains intact.

Once the area of disease has been more carefully located by the foregoing tests, certain specific diseases may come to mind and a brief description of their management is in order. Streptomycin intoxication nearly always involves both labyrinths. If the drug administration has not been too prolonged the difficulty may be reversible. If the dosage has been too great the patient may be invalid forever. Any patient who is receiving Streptomycin certainly deserves premedication caloric tests and serial testing as long as the drug is given. If labyrinthine hyposensitivity develops the drug should be stopped at once.

Meniere's Disease is typified by the symptoms of vertigo, tinnitus and hearing loss. The post-caloric response is diminished on the affected side and the nystagmus beats toward the healthy side. There is no effective medical management of Meniere's Disease, but if the vertigo is completely incapacitating, labyrinthectomy may be done with rehabilitation. Decompression of the saccus is a new operation which holds some promise of conservation of hearing as well as control of the vertigo. Epidemic viral labyrinthitis, (vestibular neuronitis), is frequently seen, particularly during the winter months. The patient has severe vertigo and usually does not complain of hearing loss. The post-caloric response is diminished or absent and nystagmus is present during the acute phase. Fortunately, the disease is self-limited, and although the seasickness drugs may be of some help they are certainly not definitive. Long after the acute vertigo has ceased the patient will complain of lightheadedness with sudden change of position.

Motion sickness is not due to involvement of the semicircular canals. It is apparently a utricular phenomenon. The motion-sickness drugs are quite effective in its control in most instances.

One abnormal otoneurological finding should not make a diagnosis, in other words one should not be dogmatic. However, it is not wise to be too timid; for if the patient, for example, shows a positional nystagmus without latent period and without vertigo one should immediately be suspicious of a lesion in the floor of the fourth ventricle and try to establish the reason for the difficulty by means of neurological consultation.

THE TRUTH ABOUT SIDE EFFECTS

It would be difficult to name a major drug with no side effects . . . no response other than that for which it is prescribed. Sometimes side effects may be beneficial. More often, they are merely undesirable. In some instances, they may be serious enough to force the physician to choose whether the therapeutic value of the drug more than offsets the unwanted reaction. But again, this is essentially a matter of professional judgment. The responsibility of the manufacturer is to do everything possible to minimize unwanted reactions. And at the same time, he is absolutely obligated to provide full information about a product, so that the doctor can make his own professional judgment in the treatment of patients. — John T. Connor, President, Merck & Co., to American Hospital Association, Sept. 18, 1962.

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REPORT ON ACTIONS OF THE HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION SEVENTEENTH CLINICAL MEETING

December 1-4, 1963
Portland, Oregon

Tobacco and health, the rights and privileges of Negro physicians, revision of the AMA Constitution and Bylaws, voluntary health agencies and blood banks were among the major subjects acted upon by the House of Delegates at the American Medical Association's Seventeenth Clinical Meeting held December 1-4 in Portland, Oregon.

The AMA Layman's Citation for Distinguished Service was awarded for the sixth time, and for the first time at a Clinical Meeting, to Mr. M. Lowell Edwards of Santa Ana, Calif., and Brightwood, Oregon. Mr. Edwards, a 65-year-old retired engineer, has designed and built artificial heart valves now in use in more than 2,600 persons with diseased hearts.

The House at its opening session expressed deep shock at the tragic death of the late President John F. Kennedy and directed that a letter of heartfelt sympathy be sent to Mrs. Kennedy, her children and the late President's family. The House also pledged its support to President Lyndon B. Johnson in forging national unity in the weeks and months ahead and offered the Association's resources, counsel and cooperation on matters of health.

Dr. Edward R. Annis, AMA president, reporting on the recent House Ways and Means Committee hearings on the King-Anderson Bill, told the House:

"The combined testimony of the American Medical Association, the state societies and our allies made a far greater impact on the members of the committee, friend and foe alike, than at any other time in the history of this long and bitter conflict."

Dr. Annis also reported that under questioning from Committee Chairman Wilbur Mills, actuaries of the Department of Health, Education and Welfare admitted that the program of tax-paid hospitalization and related benefits for the aged proposed in the King-Anderson Bill would require a tax rate twice as high as they have previously claimed.

Final registration at the Portland meeting reached a total of 7,103, including 3,144 physicians.

Tobacco and Health

The House approved a Board of Trustees proposal that the American Medical Association Education and Research Foundation undertake a "comprehensive program of research on tobacco and health."

Agreeing that many gaps exist in knowledge about the relationship between smoking and health, the House declared that the study should be "devoted primarily to determining which significant human ailments may be caused or aggravated by smoking, how they may be caused, the particular element or elements in smoke that may be the causal or aggravating agent, and methods for the elimination of such agent."

The action called for procuring a project director "whose experience, qualifications and integrity will assure that such a research project will be conducted effectively, exhaustively and with complete objectivity."

The House agreed that the project should be financed by a substantial contribution from the American Medical Association and that contributions should be solicited from other sources — industry, foundations, voluntary health agencies and physicians. It was emphasized that contributions will be accepted only if they are given without restrictions.

Subsequent to the House action, the AMA Board of Trustees voted to contribute $500,000 to help finance the research program.

Negro Physicians

The House considered two proposals related to Negro physicians — a Board report on hospital staff privileges and a resolution concerning membership eligibility in state and county medical societies. The Board report was approved, but the resolution was not adopted.

In adopting the Board report, the House declared that "members of the medical staff of every hospital, where the admission of physicians to hospital staff privileges is subject to restrictive policies and practices based on race, be urged to study this question in the light of prevailing conditions with a view to taking such steps as they may elect to the end that all men and women professionally and ethically qualified shall be eligible for admission to hospital staff privileges on an equal basis, regardless of race."

In both its approval of the Board report and its rejection of the proposed resolution — which would have denied the rights and privileges of AMA membership to members of any state or county society which refuses membership to any qualified physician because of race, religion or place of national origin — the House reaffirmed 1950 and 1952 policy actions on this subject and directed that a copy of the 1950 resolution again be sent to each state and county medical society. That resolution urged that "constituent and component societies having restrictive membership provisions based on race study this question in the light of prevailing conditions with a view to taking such steps as they may elect to eliminate such restrictive provisions."

AMA Constitution and Bylaws

The House approved comprehensive revisions and rearrangements of the Association's constitution and bylaws as submitted by the Council on Constitution and Bylaws. Among the changes are the following:

1. The Annual and Clinical "Sessions" have been renamed the Annual and Clinical "Conventions."
2. The word "constituent" has been changed to "state."
3. Two types of membership have been created, "Active" and "Special." Active Members are Regular or Service Members. Special Members are Associate, Affiliate and Honorary Members.
4. Affiliate Membership will be available to American physicians engaged in medical missionary and similar educational and philanthropic labors located in possessions of the United States.
5. A quorum will be 100 of the voting members of the House rather than 75.
6. A method has been established to replace a general officer who misses six consecutive meetings of the Board of Trustees.
7. A method has been established for the successor to the President to assume the Office of President if the President dies, resigns or is removed from office.
8. The Board of Trustees has been given express authority to appoint committees.

The House retained present provisions concerning voting on amendments to the constitution but agreed that this matter might be considered by the Committee to Review the Organization of the AMA House of Delegates.

Voluntary Health Agencies

In approving a Board report on professional relationships with voluntary health agencies, the House declared that "the AMA maintain its policy

of neither approving nor disapproving national voluntary health agencies." It also agreed "that the AMA, through its Committee on Voluntary Health Agencies, maintain its position of offering guidance on medical aspects of national voluntary health agency programs."

The House approved the "Principles for Medical Guidance to National Voluntary Health Agencies" which contain a new definition of a voluntary health agency, objectives of the Committee on Voluntary Health Agencies and a list of suggested mutual obligations between the AMA and the national voluntary health agencies. The House directed attention to the following two obligations:

"There should be a mutual exchange of information and opinion enabling the medical profession and the agency to understand each other's policy and practice."

"A national voluntary health agency should seek the advice of the medical profession when embarking on a national medical program."

In another action, the House also agreed with a recommendation that the Committee on Voluntary Health Agencies be given the status of a council in the AMA organizational structure.

Blood Banks

The House adopted a policy statement pointing out that in recent years there has been a dramatic growth of blood banking facilities in the United States and declaring that "it is highly essential that the organization of new blood banking programs and the modification of existing ones should have, in the interest of public health and safety, the approval of the county or district medical society and, therefore, should be coordinated with existing approved blood banking facilities." The House also approved a floor amendment stating that since a blood bank can well be considered a medical facility, the top authority in a blood bank should be a physician.

Miscellaneous Actions

In considering a wide variety of reports and resolutions, the House also:

Changed the name of the Council on Scientific Assembly to the **Council on Postgraduate Programs;**

Extended AMA Affiliate Membership to **scientists** in sciences allied to medicine;

Changed the name of the Council on Medical Education and Hospitals to the **Council on Medical Education;**

Approved an amendment to the Bylaws which would permit the **opening session** of the House of Delegates to be held on Sunday afternoon or evening;

Expressed gratification that the work of the Committee on **Medicine and Religion** has received widespread acceptance and support from state and county medical societies, religious groups and other related organizations;

Received a report on the AMA Members **Retirement Plan** and urged physicians to act quickly if they are to exercise their rights under Public Law 87-792 during 1963;

Requested the AMA to seek improvements in the format of its **American Medical Directory** to make it easier to use;

Asked the Association staff to study the feasibility of opening the **Clinical Meeting** two Sundays prior to Thanksgiving Day;

Approved recommendations for criteria on medical examinations for **driver limitation** under certain specified conditions;

Suggested that an appropriate committee of the AMA work with the United States Public Health Service and the industry in providing a type of **detergent** that will assure safety to the health of the public;

Urged that the term **"the aging"** be used instead of "the aged" in all statements by the medical profession regarding older persons;

Approved the **"Guides for Medical Society Committees on Aging"** and recommended their wide distribution and use;

Received a progress report from the **Commission on the Cost of Medical Care,** which will present its final report in June, 1964;

Agreed that the **Committee on Rehabilitation** should be reconstituted and that it should include participation of knowledgeable representatives of all related fields of the practice of medicine;

Earnestly recommended that the state medical societies explore the advantages of implementing **Kerr-Mills programs** in a manner which will permit the care of beneficiaries under voluntary health insurance programs;

Resolved that the AMA attempt to have removed from the **Kefauver-Harris Amendment** those provisions which authorize the U. S. Food and Drug Administration to determine the effectiveness of drugs;

Reaffirmed the Association's policy of opposing the inclusion of self-employed physicians under **Social Security;**

Agreed that a **short form medical record** may be used in cases of a minor nature and, in general, should apply to hospital stays of 48 hours or less;

Approved a Board of Trustees conclusion that the **Honors and Scholarship Program,** originally proposed in 1960, not be implemented in the light of present circumstances, and

Urged all AMA members to continue to support the **Woman's Auxiliary** so that it can be successful in increasing its membership, raising more revenue and broadening its range of activities.

Contributions and Tributes

Merck Sharp and Dohme pharmaceutical company made its third contribution of $100,000 to the student loan fund of the American Medical Association Education and Research Foundation. The AMA-ERF also received a total of almost $400,000 from physicians in three states for financial aid to medical schools. The House paid tribute to Mr. Thomas A. Hendricks, who is retiring on December 31, for his 20 years of AMA service. Dr. Annis was "commended and encouraged in his great work for private enterprise and free American medicine." By a rising vote of acclamation, the House also expressed appreciation to Dr. Jesse D. Hamer of Phoenix, Arizona, who is retiring after 30 years as a delegate.



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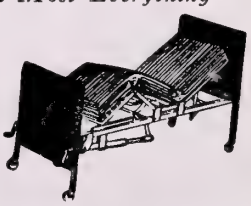
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SOUTH DAKOTA MEDICAL ASSOCIATION
C. L. Vogele, M.D. — Aberdeen
J. A. Muggly, M.D. — Madison
D. J. Buchanan, M.D. — Huron
M. E. Sanders, M.D. — Redfield
John C. Foster, Executive Secretary

SOUTH DAKOTA HOSPITAL ASSOCIATION
Sister M. Innocentia — Huron
Zella Messner — Pierre

SOUTH DAKOTA LEAGUE FOR NURSING
Jane Hewett — Mitchell
Florence Atkinson — Mitchell
Katherine McKillop — Mitchell

SOUTH DAKOTA NURSES' ASSOCIATION
Bernetha Damm — Sioux Falls

PARTICIPATING GROUP MEMBERS
Sister Vivian — South Dakota Nursing Homes Association
Thomas Schultz — Department of Hospital Facilities

GUESTS:
Sister M. Shelia — Huron
Tom Kujawa — Huron
Laura Jensen — Madison

Date and Place:
The seventeenth meeting of the SDJCICP was held as a luncheon meeting at the Marvin Hughitt Hotel in Huron on September 25, 1963.

Call to Order:
The meeting was called to order by the chairman, Dr. C. L. Vogele.

Minutes:
The minutes were read by the secretary and approved as read.

Treasurer's Report:
The treasurer reported that since the March, 1963 meeting disbursements amounted to $13.16, leaving a balance on hand as of September 25, 1963 of $39.72.

Old Business:
There was no old business.

New Business:
The chairman appointed the following committees:

Appointment of Committees
Nominating
Sister M. Innocentia
Katherine McKillop
C. L. Vogele, M.D.
Program
Zella Messner
M. E. Sanders, M.D.
Sister M. Natalie
Florence Atkinson
C. L. Vogele, M.D.

Program:
The topic for discussion was "Medical Audits in Small Hospitals."
Sister M. Innocentia opened the discussion with an explanation of the use of medical audits in hospitals and passed out a copy of the form used in the monthly medical audits in her hospital.
It was brought out that where there is a well established staff with tissue committee and library committee a medical audit is no difficulty. In contrast, a medical audit in clinics or small hospitals can be very difficult to carry out.
The radiologist, pathologist and medical librarian play important parts in the medical audit. The librarian can be of great help in that she can collect statistics and necessary information from charts. Suggestions and comments from the radiologist and pathologist can be very valuable contributions.
A type of medical audit which certain hospitals in South Dakota participate in is a Professional Activity Study (PAS) provided by the **Commission on Professional and Hospital Activities.** Each subscribing hospital sends abstracts of its medical records to the commission. Through the data collected a report is sent out to the hospital showing how it compares with other hospitals on certain phases of practice.
It was recognized by the group that small hospitals and clinics would have difficulties in making medical audits and they could be helped. It was suggested that:

1. A team from a larger hospital or district medical group could aid with the audit.
2. The State Medical Association appoint a committee of doctors from the area to do the audit.

Program Suggestions:
This group felt that there is a need for workshops on "Handling of the Infectious T.B. Patient in the General Hospitals"; also, on "Staph Infections." Other problems that needed discussion were "The Outpatient Department" and "Surgical Permits in the Emergency Room."

Suggestions for March Program:
Suggestions were made as to the program for the March meeting. Two suggestions were:

1. The Outpatient Department.
2. Care of the Tuberculosis Patient in the General Hospital.

Date of Next Meeting:
The date for the next meeting will be March 18 or 25. Exact date to be determined later.

DRUG SAFETY CANNOT BE LEGISLATED

The fundamental lesson that can be drawn from our experience thus far with the new (FDA) clinical regulations is an old one: morals cannot be legislated. Most pharmaceutical firms are irked, of course, that they are now being compelled by law to document massively the steps they were taking before, quite voluntarily, based on good business practice and a feeling of public responsibility and pride in their products. The necessity for putting every detail on paper is both frustrating and time-consuming. Drug safety requires scientific judgment, which cannot be legislated. Most companies take far greater precautions than called for by the law, because their business sense and scientific judgment call for such precautions. They know that if anything goes wrong, liability will rest with the drug manufacturer and not the Food and Drug Administration. — Austin Smith, M.D., to American Psychiatric Association, St. Louis, Mo., May 7, 1963.



EDUCATIONAL PROGRAMS IN NURSING AND RELATED CAREER OPPORTUNITIES**

The members of the AMA Committee on Nursing believe it is fundamental to an understanding of nursing and its problems that physicians have some knowledge of the differences among educational programs in nursing and related career opportunities. Further, the members believe that such an understanding is a vital link in strengthening the relationships between the medical and nursing professions. Therefore the following report has been prepared to provide an overview of the diversification in nursing education.

There are presently wide varieties of educational programs in nursing from which a high school student can choose if she desires to become a nurse.

There is also more than one avenue to follow if the professional student wishes to obtain a baccalaureate degree. The educational programs in higher education also vary, dependent on the objectives and the philosophy of the faculty and the university of which the nursing school is an integral part.

The table represents the types of programs available to potential or graduate nurses, or both, the educational facility in which the particular program is offered, and the related fees as well as the locus of responsibility for the fee.

A few experimental programs hold some promise for the future; for example, certain diploma schools have reduced the length of their programs to 2 years. In order to provide both supervised experience and some remuneration for the individual, the schools have established internships which vary in length up to 1 year and provide a stipend. Some state laws require 3 years of educational preparation for admission to examinations for licensure. This stipulation prevents both experimentation with the length of diploma school programs and also the employment, in certain states, of graduates of associate degree programs. However, efforts are currently being made in several states to revise nurse practice acts in order that such experimentation will be possible.

One diploma school has arranged a plan whereby their students may elect to attend a nearby college at the same time they are attending the hospital school. One of the more interesting community plans is that of five schools pooling teaching facilities and sharing faculty for the first year of their diploma programs. Eventually they visualize one large, community, 2- or 3-year program which will use the clinical facilities and the dormitories of the five hospitals involved in the project as well as the educational facilities of a local community college.

Enlightened nurses, educators, and others recognize that the diversity and hetero-

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Data on Programs in Nursing Education

Type of Program	Length of Program	Minimal Educational Requirements	Educational Setting	Administrative Control of School	Range or Average Tuition	Financial Responsibility	Certificate or Degree Conferred	Position for Which Eligible
Practical nurse	Approx. 1 calendar year	2 or more yrs. of high school, dependent on school requirements	Vocational high school, hospital, or junior college	Local school board or board of trustees of hospital	Free; up to $800	Usually school subsidized; student purchases uniforms, books, etc.	Diploma or certificate—eligible to take examination for licensure as LPN	Bedside nursing under supervision of physician or professional nurse
Diploma (hospital)	27-36 mo.	High school diploma	Hospital	Board of trustees of hospital, or independently incorporated yet associated with a particular hospital	$106 to $2,207 for 3 yr. (median school $826)	Student tuition, hospital and private funds	Diploma—eligible to take examination for licensure as RN	Bedside nursing
Associate degree	2 academic to 2 calendar yr.	High school diploma	Community, or junior college	Local school board, or board of trustees of college	Minimal in state or community jr. col. up to $2,000 per yr. in private colleges	Student tuition, state or community sponsorship, and private funds	*Associate degree—eligible to take examination for licensure as RN	Bedside nursing
Basic or generic baccalaureate	4 academic or 4 calendar yr. A few schools offer 5-yr. courses	High school diploma	College or university	College or university	Varies in state university; up to $2,000 or more per yr. in private universities	Student tuition and college or university funds	Baccalaureate degree—eligible to take examination for licensure as RN	Bedside nursing, public health nursing (candidate for head nursing)
Baccalaureate for RN	2½-3 academic yr. or more	High school diploma	College or university	College or university	Varies in state university; up to $2,000 or more per yr. in private universities	Student tuition and college or university funds	Baccalaureate degree (BS, BN, etc.)	Bedside nursing, public health nursing (candidate for head nursing)
Master's	1-2 yr.	Baccalaureate degree	College or university	College or university	From $2,200 to $3,500 per yr.	Student tuition (traineeships avail. to students from USPHS and others)	Master's degree (MS, MA, MEd, MPH)	Administrator, educator, clinical specialist
Doctoral	Varies with choice of major area; approx. 3 yr. or more	Baccalaureate and master's degrees	College or university	College or university	From $2,200 to $3,500 per yr.	Student tuition (research fellowships avail. to students from USPHS and others)	Doctoral Degree in nursing or related field	Administrator, educator, investigator, and others

* Some states do not permit graduates of these schools to qualify for RN licensure and practice.

geneity of nursing programs lead to misconceptions and misunderstanding on the part of patients, physicians, and potential nursing students and their parents. They realize that nursing education is presently in the process of maturation. As yet no one has come forward with a plan acceptable to all interested groups and one which will lead the way out of confusion. The American philosophy of education has always been that of diversity — not homogeneity. In keeping with this philosophy, the concern about the varieties of programs may not be germane. The challenge for nurses and others, including physicians, is to define the role of the professional nurse and the practical nurse, and to examine these roles and responsibilities in relation to the changing role of the physician in a modern scientific world. What kind of care do patients need and who can most effectively provide that care? When the answer to this question has been made explicit and has been agreed upon, it might be less difficult to predict the type of educational program in nursing essential to meet the needs of the sick of the nation, to teach preventive measures for maximum health and the like.

The AMA Committee on Nursing respectfully suggests that each physician keep informed on trends in nursing in order that he

(Continued on Page 37)



MATERNAL MORTALITY IN SOUTH DAKOTA

During the past decade the South Dakota Maternal Mortality Committee has studied all maternal deaths in the state. A number of these have educational value for all doctors who practice obstetrics, or who see obstetric patients in consultations. Therefore, some of these are being presented in your State Medical Journal in summarized form with brief discussion. In most instances these are composite reports, borrowing features from several cases. As in all maternal mortality studies, specific identification has been avoided.

Maternal Mortality Committee of the South Dakota Society of Obstetrics and Gynecology.

MATERNAL DEATHS FROM RUPTURE OF CESAREAN SECTION SCAR

Case 1. Para IV, Gravida VI, Abortion I, Age 39.

Her first pregnancy in 1947 was terminated by a difficult forceps delivery after a thirty-six hour labor. The next three pregnancies in 1949, 1950 and 1953 were delivered by elective classical Cesarean sections because of pelvic contraction, which was the cause of her first prolonged labor and difficult forceps delivery. She had a spontaneous abortion at two months' gestation in 1960.

The patient had regular and adequate prenatal care during her present pregnancy and her prenatal course had been uneventful. Her physician had scheduled her for repeat Cesarean section at about thirty-eight weeks' gestation.

Three weeks before her scheduled repeat Cesarean delivery she suddenly developed abdominal pain and scant vaginal bleeding. She was promptly taken to the hospital, which was about twenty-five miles from her home. On arrival at the hospital she was found to be in deep shock. I.V. fluids, vasopressors and I.V. cortisone were given and blood transfusions started as soon as blood was typed and cross-matched. After rapidly receiving 1,000 cc. of blood there was no appreciable change in the patient's condition. The abdomen was opened and the uterus was found to be ruptured through the center of the body and fundus anteriorly at the site of a previous Cesarean scar. The abdominal

cavity was filled with blood. The dead fetus and the placenta were free in the abdominal cavity. The uterus and one tube were removed. No anesthesia was required because of the profoundness of the shock. The patient never recovered from shock and died three hours later. She received 4,500 cc. of blood in all.

Case 2. Para IV, Gravida VI, Abortion I, Age 39.

Her first pregnancy in 1949 was complicated by pre-eclampsia. Labor was induced near term. The next pregnancy in 1951 was terminated at term by classical Cesarean section after a twenty-four hour test of labor. Her third pregnancy ended at six months' gestation and was preceded by intrauterine fetal death, three weeks before labor. Delivery was vaginal. The placenta was retained and removed vaginally. She required 1,000 cc. of blood after this procedure. In 1956 and in 1958 she had repeat classical Cesarean sections, near term, with living babies. No mention was made of the condition of the uterine scars or of a morbid postpartum course.

The patient's prenatal course during her last pregnancy was normal. She was a large obese woman, but cooperated well with her physician and had no weight gain during the prenatal period. Blood pressure, urinary findings, blood counts were all constantly normal. She was scheduled for repeat elective Cesarean section two weeks before calculated term.

One week before the planned repeat Cesarean, or at 37 weeks, she developed abdominal pain, followed by scant vaginal bleeding. She promptly called her physician, who asked her to come to the hospital. The patient lived seventy-five miles from the hospital and arrived there 2½ hours later.

On admission to the hospital, the patient was in deep shock. She died before blood was ready for transfusion. An autopsy revealed uterine rupture through a classical Cesarean scar. The placenta was partially separated but attached to the posterior wall of the fundus of the uterus and the dead fetus was free in the abdominal cavity.

Comment

Antepartum rupture of the uterus in classical Cesarean section scars has been the leading cause of maternal deaths in South Dakota in the past two years. There were three such deaths out of our fourteen maternal deaths in 1961 and 1962. No other single obstetrical condition accounted for more than 2 maternal deaths. In addition to the three deaths from uterine rupture in classical Cesarean scars, there were three additional maternal deaths from other types of uterine rupture. One followed version and extraction, another occurred after spontaneous delivery at term and the third was an incomplete uterine rupture after abruptio placenta. In addition to the above six cases of uterine rupture, the committee studied two cases of maternal deaths signed out as due to uterine atony, in which the committee felt that uterine rupture as the cause of death had not been ruled out.

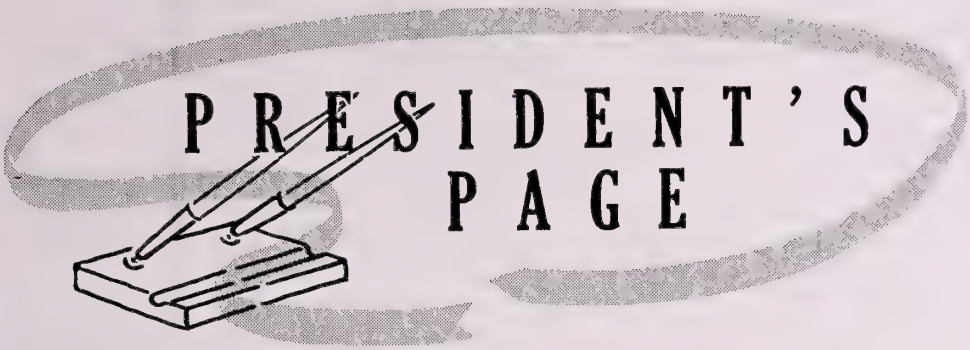
What are the best means of preventing uterine rupture in classical Cesarean scars and what is the best treatment when it does occur?

Most obstetricians agree that the classical Cesarean section scar is more prone to rupture than the low cervical scar. The low cervical scar is also less apt to produce dangerous adhesions and their complications. These are valid reasons for preferring the low cervical operation.

The uterine scar of a previous Cesarean section should always be carefully examined when the uterus is opened. If the scar is dangerously thin, we should not permit the patient to go through another pregnancy and either remove the pathological uterus or at least perform a tubal sterilization.

Patients who have had previous Cesarean sections should be acquainted with the symptoms of uterine rupture, and of the importance of promptly getting to the hospital if the membranes rupture or labor begins. This would often prevent delay in therapy.

Regarding the treatment of uterine rupture, basic surgical principles should be followed. Prompt blood replacement rapidly is important. We should not operate on a patient in deep shock, but treat the deep shock and when the patient rallies surgery can be started and bleeding controlled. Additional surgery, such as a hysterectomy, should only be done if the patient has recovered from deep shock.



Dear Fellow Members:

Something has bothered me for some years and I suspect that it has also been of concern to you. The whole Krebiozen question now has caught the eye of the Public even more than before. I refer to an article in THE SATURDAY EVENING POST by Robert P. Goldman which deals with a layman's attitude about this Krebiozen affair. This young man concluded his article by the following. "Is the Krebiozen affair dead? Not by a long shot."

This is the problem for us — the affair is not dead. Senator Douglas (D), Illinois, a long-time friend of Dr. Walter Ivy, has now gotten into the act and, with other senators, has drafted a resolution calling "for a fair test of Krebiozen." National Cancer Institute's Doctor Endicott says that "we will not perform a test on a worthless substance." He feels that a Krebiozen test on patients would be immoral. He adds, "For any physician to participate in such a test would be unethical to say the least. The Senate resolution demands that we carry out a test which I consider almost a criminal act."

In my own practice I have no problem deciding whether or not to use Krebiozen. I am sure that you feel the same way. I have long been puzzled by Dr. Ivy's position. I can't understand how a good scientist can be so confused. I bear no malice toward Dr. Walter Ivy or Dr. Steven Durovic but I simply would not use any drug which had not been approved by the AMA and the F.D.A. any more than I would have used Thalidomide. I feel that these groups can better assess the worth of a drug than I can.

Any medications or methods of treatment which I may devise I shall be pleased to submit to the critical testing of the proper agencies and to my colleagues. If it can't pass these then I must realize that I could be in error — even if a million dollar reward or a reputation is the purse at stake. Somehow, Dr. Durovic and Dr. Ivy must understand this. Above all else the politicians should not enter into something of which they have no knowledge. Senator Douglas says "The medical profession sometimes errs." To this I would agree. However, it will be less easy for us to err if these decisions are medical ones and not those made by people without medical knowledge.

I think that it is high time that all of us who practice medicine, who diagnose and treat cancer, let our legislators know how we feel so that their future actions may be guided, in part, by our feelings. Write your Congressmen and let them know how you feel about Krebiozen. They need help in directing this and you practicing physicians' opinions are now needed.

Fraternally,

Robert H. Hayes, M.D.

MEDICAL LIBRARY BOOKSHELF



The Congressional Record for December 6, 1963 contains the accomplishments of the U. S. Senate Subcommittee on Reorganization and International Organizations in its study of "Interagency Coordination in Drug Research and Regulation." Senator Humphrey is chairman of this Subcommittee and was responsible for sending this Medical Library a reprint of their activities.

The achievements of this Subcommittee are in such fields as overall coordination of scientific research; strengthened collection; dissemination and evaluation of information; better coordination of international technical assistance programs, and improved coordination of Federal programs in the field of pesticides.

The thalidomide incident has resulted in increased activity on the part of the Subcommittee to avoid any such tragedy happening again. It was responsible for the transfer of a pain-relieving drug known as Percodan back to what is known as class A list of narcotics which require written prescription. The drug had been available on what is known as an oral refill basis.

Due to protests by Attorney General Mosk of California and numerous physicians over heavy abuse of this drug by addicts including teen-agers, and also due to a survey made by the Narcotics Bureau on widespread abuse of Percodan, it was taken off the oral Rx list.

This is but one example of scores of drugs that are being scrutinized for possible harmful effects to the public.

Another effort of the Subcommittee has been the collecting of information regarding the adverse reactions of drugs. Procedures have been developed for reporting adverse drug reactions by all the Veterans' Administration Hospitals and Clinics with the expectation of making these summaries available to other agencies.

Attempts are being made to compile reactions by Pharmaceutical companies; FDA; V.A. Hospitals; NIH and others concerned with drugs. The manufacturers of drugs have not always informed the medical profession of the evidences against their products.

There is just beginning to be closer cooperation between the NIH and the FDA. For the first time there will be organized mechanisms for integrating exchange of information; for representation of FDA experts on NIH study sections; and for systematic FDA in NIH sponsored seminars, conferences and other activities.

Another effort of the Senate Subcommittee has been in the improvement of systems of scientific information and communications, internally in government agencies and between agencies. Unfortunately there has been a minimal systematic cooperation be-

tween the National Library of Medicine and the Food and Drug Administration. The computer program (Medlars) of the NLM did not make advance provision for meeting FDA's particular information requirements although some steps have recently been taken to service FDA on an improved basis.

The late President Kennedy in an address before the United Nations proposed the establishment of a World Center for Health Communications including adverse reactions of drugs. The World Health Organization of the UN has begun some effort along this line. In May at the 16th WHO Assembly two drug resolutions were adopted, one of which pertained to more "rapid dissemination of information on adverse drug reactions."

The American taxpayer should get more for the 150 millions that the U. S. Government spends for drug activities. This Subcommittee is an important agency for carrying out the needed reforms and improvements essential for guarding the nation's health and the taxpayer's dollar.

Esther Howard
Medical Librarian

EDUCATIONAL PROGRAMS—

(Continued from Page 32)

can contribute wherever possible to the improvement of nursing education programs and to the clarification of the role of the nurse.

In conclusion, the Committee suggests that the Committee on Careers, National League for Nursing, 10 Columbus Circle, New York, be contacted for information on accreditation of professional schools of nursing and for careers material in general.

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NEWS NOTES

A new Public Health Service publication CONGESTIVE HEART FAILURE: A GUIDE FOR THE PATIENT, describing in non-technical terms the causes, process, treatment, and management of congestive heart failure, is now available for general distribution through the Superintendent of Documents, Government Printing Office, Washington 25, D. C. The cost is 10c a copy, $5.00 per 100 copies.

* * *

Dr. Thomas K. Hines, a native of Miller has joined the Hand County Clinic in association with **Dr. John C. Hagin** and **Dr. James DeGeest.**

V. C. Marr, M.D., of Estelline, South Dakota, attended the 22nd Annual Meeting of American Academy of Dermatology in Chicago, Ill., recently.

* * *

DISTRICT 5 ELECTS OFFICERS

Twenty doctors and their wives met for dinner at the Inn Hotel in Huron. **Robert Hayes, M.D.,** President of the State Medical Association made his official visitation to the 5th District. Dr. Hayes discussed Mental Retardation and other medical problems of interest to South Dakota physicians. A short business meeting was held at which time election of officers was held. The following were elected for the year of 1964:

President—
Ted Hohm, M.D.

Vice-President—
Dave Buchanan, M.D.

Secretary-Treasurer—
G. Huet, M.D.

DR. H. KLIMA DIES IN FLORIDA

Dr. Hermenegeld Klima, age 86, died Thursday, December 5 at Mease Hospital in Clearwater, Florida. Dr. Klima practiced medicine for nearly fifty years in Tyndall, and was a former owner of the Tyndall Tribune. He was staff physician at the State Hospital in Yankton from 1948 to 1953. He was born April 13, 1877 in Czechoslovakia.

* * *

EDGEMONT DOCTOR PASSES AWAY

Dr. James R. Byrne, who practiced for many years in Edgemont, died in a Hot Springs hospital, Monday, December 9. Dr. Byrne was born in St. Joseph, Missouri on March 28, 1894 and practiced medicine in Edgemont for twenty-six years. He received his degree in medicine from Creighton Medical School in Omaha, Nebraska, and served in the Navy during World War I as a lieutenant in the Medical Corps.



GUILFORD C. GROSS, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



CHEMICAL HAZARDS IN DO-IT-YOURSELF PROJECTS*

by
Marion Gleason**
Rochester, New York

Since the theme of this Congress is research, I am taking perhaps unfair advantage of the very flexible title assigned me for this paper, Chemical Hazards in Do-It-Yourself Projects. But all's fair in the love of safety and the war against accidents, and I cannot neglect this opportunity to present an aspect of accident-causation and prevention that offers the possibility of research procedures designed to start a downward slope of the morbidity and mortality rates on the accident-statistics charts.

The term, do-it-yourself, has attained such a wide range of usage it now means almost any human activity that is non-professional and off-the-industrial job. I recently saw it applied to the laudable determination of two states to take care of their own public-works' projects instead of depending on Federal help.

And before me is a newspaper clipping titled, "Do-It-Yourself." The item reads: "Jacksonville Funeral Home told police yesterday that someone broke in and stole a portable embalming machine and a case of embalming fluid." To the clinically curious, I can add this information: it is estimated that drinking an ounce to a pint of embalming fluid could kill a man weighing one hundred and fifty pounds.

Even the pediatric field is invaded by infant do-it-yourselfers. The British Medical Journal reports the case of a child who was rushed to the doctor because he had swallowed moth balls. When the doctor washed out the patient's stomach, along with the moth balls up came a damp, but intact moth. The child explained that he had inadvertently swallowed a moth and sent the moth balls down to kill it.

Chemical hazards that have long harassed industry have invaded homes, farms and highways where they represent a health problem of major importance. Shorter working hours mean increased time for the pursuit of happiness through hobbies. The scarcity of skilled labor and its high costs contribute to the vast popularity of do-it-yourself projects, while large numbers of retired workers and older citizens are finding avocations in hobbies that are providing pleasure and occasionally profit for their leisure years.

Today's basements contain workshops where the men of the family not only hammer and saw, but can experiment with equipment often equal to that used by professionals. Kitchens and dining rooms are littered with materials and instructions on how

*Prepared for the National Safety Council Congress, October 29, 1963.

**Research Associate, Department of Pharmacology, University of Rochester Medical Center.

to use them, culled by women folk from magazines, adult education classes and Home Bureau sessions.

Manufacturers are meeting the needs of these do-it-yourselfers by producing gadgets of every description, from the simplest paint-roller sets to complicated carpentry and machine shop outfits. Machinery found only in manufacturing plants not so many years ago has its replicas today in the cellars, attics and garages of thousands of homes where there are no watchful eyes of foremen to see that safety directions are followed.

The shelves of supermarkets, hardware stores and drug stores are crowded with an endless array of trade-marked packages and bottles of compounds of varying degree of usefulness and toxicity. Many of these contain chemicals formerly used only in industry, some so toxic, like carbon tetrachloride, that their use has been discontinued by many manufacturers as unsafe for their workers to handle. But do-it-yourselfers are unrestricted in the purchase and use of what may be exceedingly dangerous substances and there is no industrial hygienist to require proper ventilation in the home to carry off hazardous fumes or dilute poisoned air.

Industry has long recognized the value of keeping its employees as safe and healthy and comfortable as possible. Safety engineers remove, wherever possible, environmental accident hazards. Frequent medical examinations determine safe jobs within the physical limitations of the workers and prevent serious illness by revealing possible hidden disorders due to exposure to toxic substances. Industrial toxicologists insist that less poisonous chemicals are used when they can be substituted for those proved injurious, and that proper ventilation systems are installed where needed. As a result, the majority of large manufacturing plants are healthful and comparatively safe places to work.

There is no control, however, over the off-the-job do-it-yourselfer, and no guidance except the instructions prepared by manufacturers of materials for their safe and efficient use, plus the warning labels on chemical products which indicate their potential toxicity and the necessary precautions which should be observed by the user. But do-it-yourselfers seem to resent the fact that they should read labels. Since the new law went into effect requiring a great deal of toxicological information to be printed on every label containing a possible hazardous substance I have heard a number of complaints about having to read so much fine print. However, a different reaction to the fine print on a label was expressed by a correspondent in the following letter which came to my desk:

"Sirs:

"I read an article in the paper about the toxicity of certain garden chemicals, written in your office.

"I am retired and do some garden work but I have accumulated some highly advertised chemicals for sprays which were claimed to be safe. When I get the stuff home the directions contain enough 'caution' fine print to frighten even an experienced chemist — I want to dispose of some of this dangerous stuff. Will you please advise me? I have planned to dig a 3 ft. hole in the alley somewhere and let it leach out from there. Would this be O. K.?"

Our correspondent is an exception to the rule of general indifference to the information printed on labels. At a recent conference of the National Agricultural Chemical Association the plant doctor who receives complaints reported that all too frequently the complainer had not read the instructions on the label of the pesticide he was using and occasionally, did not even know the name of the product. This presents almost as baffling a situation as that of the toxicologist of the Royal Mounted Police who was asked to analyze the poison in a box of candy. The only information given the officer by the woman who asked for the analysis was, that it was the first box of candy her husband had given her in fifteen years.

Perhaps if the users of products containing potentially toxic ingredients realized that some of the most expensive literature in the world is printed on the labels of their bottles, packages and cans, for their convenience and protection, they would read every word more carefully and with greater respect and appreciation. Many manufacturers spend sums running into the hundreds of thousands of dollars to provide accurate directions for the

proper use of the products they market, together with warnings against their misuse and recommendations for treatment if the warnings have been ignored.

Doctors are aware of the toxicology of such agents as carbon tetrachloride, nicotine, methyl alcohol, and the organic phosphorus compounds. Injuries to the liver, kidneys, heart and brain from the inhalation and skin absorption of such poisons are fully described in medical literature. But the symptoms of nephritis, hepatitis, obscure anemias, amblyopia, cardiac failure and some virus infections closely resemble those of excessive toxic exposures to a number of chemicals in common use in homes, and on farms. Thus the causative factor of the illness may be overlooked both by the patient and the attending physician.

Also overlooked is the fact that accident-predisposing symptoms such as drowsiness, dizziness, lack of coordination, psychic disturbances and impaired vision can result from episodic or chronic exposure to chemical products, often regarded by do-it-yourselfers as relatively harmless. These symptoms can disturb the mechanical reactions of self-preservation which a normal, healthy person must develop to stay alive today, and can contribute to the accident susceptibility of the affected person.

This hypothesis is presented in more detail in a publicity release prepared by the Department of Pharmacology of the University of Rochester in one of its monthly Bulletins.

> "We would like to comment on the possible role of chemical poisoning as a causative factor in farm accidents. In an earlier issue of this Bulletin, we reviewed an article on the neurologic and psychiatric symptoms of acute chemical poisoning.* Many of the chemicals described in this article are used on the farm. Could poisoning with such chemicals predispose persons to certain types of accidents? The farm provides an especially hazardous working environment since exposure to a multitude of potent chemicals is combined with the use of dangerous machinery, both under marginal supervision.
>
> "Symptoms of chemical poisonings may include acute excitation and/or depression of the central nervous system. Such symptoms can occur following exposure to many types of products, such as solvents, cleaners, paint removers, insecticides and other pesticides. The symptoms may be: anxiety, jitters, emotional lability, tremors, increased psychomotor activity, disturbed behavior, exhaustion, lethargy, weakness and somnolence. Any of these symptoms can contribute to a person's accident-susceptibility. The exposure does not necessarily have to be severe, nor the symptoms disabling. On the contrary, a symptom produced by an exposure so mild it is unrecognized may often prove all the more insidious and harmful because the victim is unaware of the danger.
>
> "For example, a farmer, in preparing his tractor for field work, may inhale enough gasoline fumes to produce what is commonly known as a 'naphtha jag,' the symptoms of which closely resemble those of alcoholic intoxication. He may not feel inebriated when he takes his tractor out into the field. A boulder lies in his path. Ordinarily he would automatically stop his tractor in time to avoid hitting the boulder or successfully maneuver the machine around it. With his coordination and reflexes slightly below their normal capacity, he hits the boulder, his tractor overturns and another farm casualty is reported thus: 'His tractor overturned, crushing the driver.' Rarely could there be a mention of a possible contributing cause: 'He was slightly intoxicated by the inhalation of gasoline fumes.' "

The following quotation* presents in more detail the concept that an unrecognized biological factor might be the cause precipitating an accident:

> "Every healthy adult has built up conditioned mechanisms of self-preservation. It is impossible in this complex civilization to think constantly of all possible hazards that should be avoided. There may be only a hair's-breadth of space or a split second of time between a missed accident and a

*Aita, John A., Neurologic and Psychiatric Symptoms of Acute Chemical Poisoning. **The Nebraska State Medical Journal,** December 1957, Vol. 42, No. 12, p. 571.

*Gleason, Marion and Gleason, Peter: A Limited Questionnaire Study of Nonfatal Accident Cases. **New England Journal of Medicine, 252:** 1029-1032, (June 16) 1955.

fatality. In a slight deviation from usual behavior the narrow margin between a safe and an unsafe act can be removed.

"The causal variables surrounding every accident are often multitudinous and cannot be wholly anticipated. Therefore, modern man must rely on his conditioned responses to protect himself without too much concentration on his part. **Any disorder in a person that tends to disturb these protective mechanisms can contribute to accident-susceptibility.** When such a disturbance is combined with an opportune environmental hazard an accident is likely. Weinerman** gives this summation of the accident problem: 'Proneness to accident is at once an attribute of the disturbed personality, impaired physiology and unsafe conditions of environment. Successful prevention must recognize the total ecologic complex.'

"It is recommended that any farm worker engaged in a hazardous activity should watch for the symptoms described, no matter how slight, and ask himself, or herself, if there has been an exposure to a poisonous chemical through inhalation, or ingestion of food that has come in contact with a toxic substance. If there has been such an exposure, hazardous activities should be curtailed until the symptoms are gone. Otherwise, another farm casualty may be added to the statistics that make up the appallingly high morbidity and fatality rates due to farm accidents."

When this release was sent out by the publicity department of the University of Rochester, we were gratified to learn that 110 newspapers and magazines, with a reader potential of 14,000,000 persons, used the information. That the message got across was evident from the following comment in the Pennsylvania Farmer: "We do not recall in all the farm safety material we have seen that this kind of intoxication was listed as the cause of an accident. But, of course, the reason is almost immediately apparent. If the victim survives, he would probably never recognize intoxication as the cause. If the accident is fatal, the cause would not be apparent on the scene of the accident. Such mild intoxication could be the cause of some of these accidents which had no apparent reason for happening."

The same type of warning given to farmers should be heeded by the many owners of pleasure craft who do their own maintenance work on their boats. The tragic number of deaths by drowning published after each holiday by the National Safety Council, prompted the inclusion in another Bulletin of the following admonitions to boat owners:

1. Never tune up your outboard motor in an unventilated small boathouse, workroom or garage. The danger of exposure to carbon monoxide gas is greater than you think. Even if you don't inhale enough fumes to sicken you immediately you may experience mild symptoms, such as dizziness, blurred vision, impaired coordination, any or all of which can lead to accidents when you take your boat out on the water.
2. If you use solvents that contain naphtha or naphtha derivatives, watch out! Naphtha fumes, if inhaled in sufficient quantities, can cause a variety of unpleasant effects, ranging from symptoms similar to acute alcoholism to serious internal injury in the case of continuing heavy exposure.
3. Don't use a blow torch to burn anti-algae paint off the bottom of your boat. Marine paints can contain mercury, arsenic or lead compounds. When these are vaporized by heat and the fumes inhaled, the results can be exceedingly unpleasant, perhaps fatal.
4. Handle with care any plastic coatings that use the substance "methyl ethyl ketone peroxide" as a hardener. This substance is dangerous. It can produce chemical burns through contact with the skin, is injurious if swallowed, and is flammable.
5. Follow these safety rules: Keep your workroom well ventilated. Wear rubber gloves and wash them immediately after use. If you experience any accident-predisposing symptoms, stay on land until they pass.

This list of boating safety rules gives me an opportunity to describe an approach to the accident prevention problem which I term,

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Weinerman, E. R., Accident-proneness: critique. **Am. J. Public Health, 39: 1530, 1949.

THE SECOND WHY. From long years of work with toxic products, I have acquired the habit of reading accident reports with a somewhat different focus of interest from that presented in the usual descriptions. For instance, when I read: "He fell asleep," "He drowsed," "He blacked out," I question: "Why did he fall asleep?", "Why did he drowse?", "Why did he black out?"

A tragic drowning was reported in our local papers. A sixteen-year-old boy, a good swimmer and one who had handled his boat expertly and safely for many years, took it out at the beginning of the season. A short distance from shore he stood up, lost his balance, fell into the water and was drowned. As I read the newspaper account these "why" questions came to my mind. Had he been working in his boathouse preparing the craft for use after it had been stored through the winter? Had he been repainting the boat and been exposed to toxic vapors? In tuning up his motor had he inhaled enough carbon monoxide gas to be slightly dizzy? Was he suffering from a naphtha gasoline "jag?" Until these second "whys" are routinely asked and answered, the biological factors in accident causation may continue to constitute the weak link in the wide chain of accident prevention work. It can be strengthened.

Fortunately the study of the accident-predisposing effects of very slight exposures to toxic chemicals lends itself to human experimentation.* The vast amount of work done on the accident-liability of persons with varying degrees of alcoholic intoxication forms a basis of research for other toxic factors in accident causation. Any chemical that can produce the symptoms of central nervous system excitation or depression can be suspect as an accidentogenic substance, and its slight, but disturbing behavioral effects from tolerable exposures certain not to injure volunteers or paid subjects, can be studied and recorded.

Departments of pharmacology, toxicology, physiology, psychology and clinical medicine, can all contribute information that could focus the attention of the public on these little known factors in the causes of accidents.

Here again is a hypothesis that should be considered in accident-prevention work. **Awareness of biological factors that are accident-predisposing, can be protective.**

At the beginning of a Fourth of July holiday period in Rochester, the publicity department of the University of Rochester prematurely released a reprint of an article which described some of the biological factors outlined above. Newspapers, radio announcers and television programers seized on this somewhat different focus on the accident problem, and about every fifteen minutes something went out over the air on the subject. At the end of the holiday period, the editor of one of the local newspapers called me and asked if he might run a series of editorials pointing out this approach to the accident problem. He had been informed that the traffic accident rates in the area reached by the local stations was the lowest in years, while the national rate was high. Multiply this type of educational approach to the accident-control problem a thousand times and a reduction of the accident rates might become apparent.

Last, but far from least, is the self-medication of do-it-yourselfers. Not only do millions prescribe and buy their own medications, but act as consultant physicians for their friends. The accident-predisposing effects of a large assortment of drug products available to the public without a prescription is increasingly recognized by the Food and Drug Administration, and pharmaceutical companies. More and more frequently you find on drug labels the accident-prevention admonition, "Avoid any hazardous work while taking this drug." An excellent coverage of the subject appears in the Fall issue of the National Safety Council's Family Safety Magazine.

Considerable publicity is being given to the fact that tranquilizers, barbiturates and other drugs can increase the accident-predisposing effects of alcohol. The soporific effect of aspirin is not understood, but recognized by some careful drivers as an accident hazard. Since it is estimated that twenty-one

*Miller, James G., Objective Measurements of the Effects of Drugs on Driver Behavior. **J.A.M.A.**, March, 1962, Vol. 179, No. 12, p. 940.

tons of aspirin tablets are consumed each day by Americans and enough barbiturates are manufactured each year to provide twenty tablets for every man, woman and child in the United States, the magnitude of evaluating this problem for the safety worker is apparent. Less apparent is the problem of the older person whose body cannot detoxify the drugs at sixty-five which were safely taken at fifty-five. The need to study more deeply the effect of accident-predisposing drugs on the older person is evidenced by the high morbidity and mortality rate of the persons in the older age bracket injured on the street and in the home. An awareness of the symptoms produced by drugs taken alone or with other accident-predisposing substances could very well be protective.

A brochure compiled a number of years ago by the National Safety Council is titled, "Why Research In Safety?" In an introduction it quotes George Santayana as saying, "Accidents are accidents only to ignorance; in reality all physical events flow out of one another by a continuous inter-twined derivation." Later I find in the brochure this statement: "The inner core of the individual is surrounded by layers of ignorance, ingrained habits, inertia, suspicions, which insulate him from various influence. New knowledge, new ideas, bounce off these insulating layers and the inner person is not affected."

Slowly but surely the interest of the public has been attracted by medical factors that may affect its health and happiness. A glance through almost any of the current popular publications will confirm this statement. And the public interest in chemical hazards is attested by the hundreds of thousands of startled readers of Rachel Carson's best seller, **SILENT SPRING,** which describes the dangers to beasts, birds, fish and humans by exposure to toxic pesticides. Are the insulating layers of public interest now ready to be pierced by the protective knowledge of the accident-predisposing effects of toxic drugs and chemicals?

It is tempting to present in this discussion the effects of hidden physiological disorders

(Continued on Page 53)



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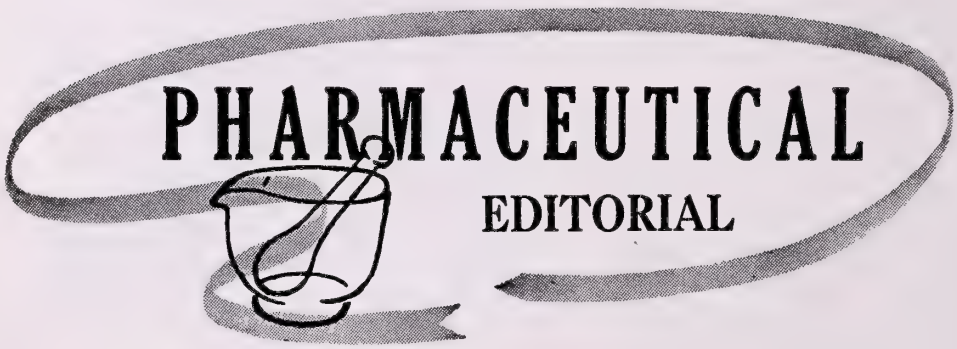
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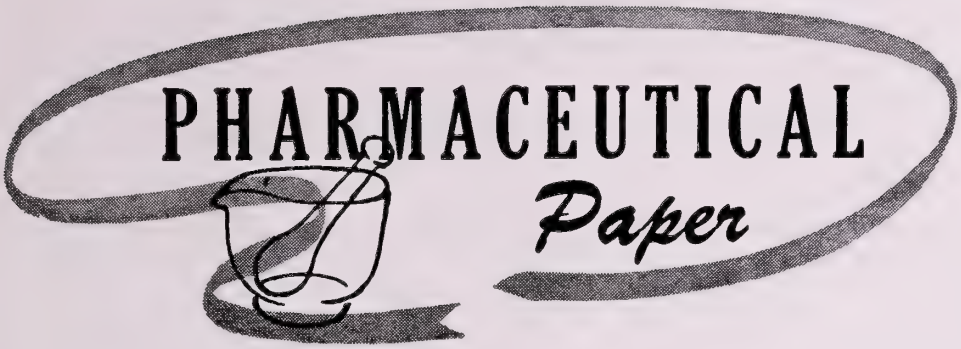
PHARMACY HEALTH EDUCATION STUDY

The joint American Pharmaceutical Association — U. S. Public Health Service study to evaluate the community pharmacy as a source of family health information entered its third month on January 1, 1964. Early reports from the 360 participating pharmacies indicate that the public is readily accepting the concept of the pharmacy as a health information center and is using the free literature as expected.

As of January 1, more than 1,600,000 pieces of health literature, supplied by over 30 cooperating professional and voluntary health agencies, had been furnished to the pharmacies participating in the study. In October, 1963, a selected group of 1,200 pharmacy patrons were interviewed in an attempt to establish opinions and attitudes of the concept prior to the display of the health literature. A similar group of 1,200 patrons will be interviewed at the conclusion of the six-month study period in April to determine any changes in attitudes of the public after it has been exposed to the health information available free in the pharmacies.

The object of the study is to determine how the public accepts the idea of the pharmacy as a source of family health information and whether the program can be expanded to include all interested community pharmacies throughout the nation.

National Analysts, a well known research firm, is conducting the actual sampling and will evaluate the results. The American Pharmaceutical Association, operating under a U. S. Public Health Service grant, is providing all administrative services, personnel and additional funds in the survey operation. Additional support has been given by Smith, Kline and French Laboratories and E. R. Squibb and Sons.



HAZARDS OF HOME CHEMISTRY*

by
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Abstract:

"Home Chemistry" implies the use of chemicals and chemical-containing substances for domestic, personal, or recreational purposes, under conditions where formal control measures are limited or non-existent. Specific problems discussed include:

I. Amateur pyrotechnics and explosives
II. Toy chemistry sets
III. Home chemicals

Introduction:

The past decade has witnessed a remarkable increase in the use of chemicals formulated and packaged for home use. Most of these substances are intended to make life more pleasant, to minimize work, or to increase efficiency. The additional attention which has been bestowed recently upon science and technology has encouraged more experimentation, especially by young people. With the benefits have come by-products which are not desired, where incomplete information or wanton disregard of fundamental precautions has resulted in injuries. This discussion presents the case for more sophistication in the use of chemicals, especially in domestic or recreational situations. As applied here, a chemical is defined as any element, compound, mixture or formulation, of either known or unknown composition, possessing properties which make it potentially beneficial to mankind if properly utilized.

I. **Amateur pyrotechnics and explosives:**

The fascination and appeal of a pyrotechnic display or skillfully engineered explosion is undeniable, as has been observed for centuries by firecrackers, rockets and Roman candles. Although there is no federal fireworks law, as such, there are numerous codes, ordinances, and other regulations at various governmental levels. In spite of all this legislation, designed to remove fireworks from the hands of amateurs, in fact, pyrotechnics are still part of the domestic and academic scene. If such activity were adequately safeguarded, perhaps it could be tolerated, but unfortunately even very young children participate, with little or no supervision.

Complex chemistry and hard-to-obtain ingredients are not necessary to pursue this dangerous pastime. Objects as common as dry ice or match heads, if confined, as in a stoppered bottle, piece of tubing, or closed can, expand with possibly tragic effects due

*Presented to the National Safety Congress, Session Co-sponsored by Chemical Section and Occupational Health Committee, Oct. 29, 1963, LaSalle Hotel, Chicago, Ill.

**Research Laboratory, General Electric Company, P. O. Box 1088, Schenectady, New York.

to bursting of the container. Another common combination consists of weed-killer mixed with powdered sugar. Powdered zinc mixed with sulfur constitutes still another system which is safer, but still hazardous. Such mixtures became very popular when used in misguided attempts to propel amateur rockets, in spite of unqualified opposition by the American Rocket Society and other groups.

Explosives may fascinate young men well grounded in the sciences, as demonstrated by two unrelated incidents, each involving three 20-year-old college students. A short reference to these cases will illustrate the highly unusual activity involved.

In one case, an engineering freshman brought two classmates home for a weekend, and, to demonstrate his technical ability, prepared to launch signal rockets from a high bluff along a river. Ignition was to be by remote control, using a short-wave radio signal transmitted from a moving automobile and received by the pre-set ignition system. Unfortunately, the flare mixture, which probably was powdered metals with oxidizing agents, ignited prematurely, resulting in injuries to all three, the most serious of which involved permanent blindness to the young engineer.

In another incident, five college students rode in an automobile; two in front and three in the rear. From available information, it appears that the three in the rear were filling plastic bags with a chemical reaction employing a disinfectant combined with model airplane fuel. The delayed reaction that was involved permitted the closed bags to be tossed from the moving automobile, with spontaneous ignition occurring several minutes after the car had passed. Unfortunately, one reaction mixture ignited prematurely, resulting in a vigorous fire, which ignited other combustibles, causing the driver to lose control of the car, and to crash. The two front-seat occupants escaped with minor injuries, but the three in the rear seat were burned fatally. The vigorous oxidation from this chemical with organic matter is well known.

The above incidents, selected from many which are on record, suggest again that, unless respect for chemicals can be implanted and inculcated at an early age, no amount of laws will prevent such tragedies. This education must start in the home; certainly it must be taught in schools and colleges. The Institute of the Makers of Explosives has been engaged in a vigorous campaign to teach children and adults to recognize misplaced dynamite and blasting caps, and to surrender any suspicious object to civil authorities. The military has the same attitude about war souvenirs, where a bullet, bomb, or grenade may explode after many years duty on a mantle or game-room shelf. Radioactive substances are in the same class insofar as incompatibility with the home scene. It might be further noted such objects increase greatly the hazard to emergency personnel, especially during a fire, where explosives or radiation may be released unexpectedly.

II. **"Toy" chemistry sets:**

If we agreed that young people should be encouraged to experiment in the sciences (and here it is noted some authorities feel this should be a natural selection — that a wise distribution of our best talent on all fronts, both scientific and sociologically is more important than excessive pressure to produce more scientists and engineers), organized experiments with supplied reagents and detailed instructions may be considered. A generation ago, chemistry sets were relatively simple, consisting of a few reagents in wooden containers, a few test tubes, a candle, and simple manual. Today, chemistry sets reflect our expanding technology and improved merchandising techniques, for they are available in a glittering array of sizes and types, some including manuals which closely parallel a high school chemistry course. Of the sets examined recently, dangerous and potentially explosive ingredients have been carefully screened, and labels reflect the newer laws on precautions for toxic substances. It is stressed in the instructions that directions should be followed to the letter, and that reagents or other substances not supplied and specified should never be added to experiments.

Some time ago the Chemical Section of the National Safety Council developed a Fact Sheet on Home Chemistry sets, which was

issued by the Home Department of the Council. In this, it was pointed out that competent supervision should be alert and "look over the shoulder," even with relatively simple sets. This precaution is especially important in sets which include open flames, such as an alcohol lamp, for glass-blowing and heating. In addition, it is urged that eye protectors be provided with the sets, and specified that they are to be worn when performing any experimental work. This is clearly in line with standards practiced in many chemical laboratories, where the benefits of eye protection have been demonstrated many times. It would further demonstrate respect for **all** chemicals, and establish patterns of conduct which would be useful in later scientific careers. For anyone questioning the need for eye protection, the files of the National Society for the Prevention of Blindness can be most enlightening, as can a recent book discussing eye effects of 1600 chemicals. In one state, Ohio, eye protection is now required by law in all school and college laboratories and shops.

Another recommendation which we feel should be considered is some classification of chemistry sets and other scientific toy sets by age brackets, and so stating in large print what is the range of suggested ages for each specific set. Clearly a parent buying a large complicated set for a child too young to comprehend it is not doing the child a favor, but encouraging waste and arousing frustrations. If the recommended range of ages could be clearly and conspicuously displayed on the box, the prospective buyer would have a basis for a more intelligent selection, and the young student more likelihood of learning, as well as enjoying, his experiments. Certainly such "sets" should be the beginning of an educational experience, not just a "toy."

III. **"Home chemicals":**

In one sense, there are no "home" chemicals, for chemicals have identical properties (and hazards) whether used in the home or in industry. However, two main differences may be noted between domestic and industrial use: (1) the containers are usually smaller and less uniform in the home, and (2) the precautions, which may be identical, are much less likely to be observed in the home, for they are less understood, and the motivation for observing them is less clearly stated. One cardinal rule regarding all "home chemicals" is that they must be kept out of the reach or grasp of children, just as medicines and drugs. This is especially true of children in the one to four-year-old range, who will eat, drink, or mix any substance with absolutely no discrimination, and for whom fire has an especial fascination.

A few general classes of "home chemicals" are discussed:

(a) **solvents and cleaners**

Chemically, such substances range from aliphatic and aromatic hydrocarbons to halogenated hydrocarbons, with a variety of mixtures and blends included. Many now appear as "aerosols," either alone or in combination with propellants to aid in producing a desired spray effect. In hazards they range from highly flammable to non-flammable, and from highly toxic to barely toxic. The user must depend on the adequacy of the label, and should observe the recommended precautions, even when they appear in small print. An interesting example was revealed under date of Oct. 11, 1963, where the Food and Drug Administration warned against home use of a water repellent containing an extremely flammable solvent. Flash fires occurred following the application of the product to a masonry wall in a home basement. The revised label, recommended by FDA, contains the statement:

> "The potential hazard from the use of this product is so great it is recommended the user, before applying the material, consult with a professional expert in handling such highly hazardous materials to minimize the chance of personal injury or property damage."

If the phrase "Use with adequate ventilation" appears, it means air movement sufficient to completely remove the vapors.

(b) **bleaches**

The safe and effective use of bleach in home laundry operations has been increased by the availability of tablets which decrease the danger of accidental contacts and errors in measurements.

A hazard of liquid bleach that has received little attention is the release of large volumes

of chlorine gas when the bleach contacts acids. This has produced serious incidents when a crystalline toilet bowl cleaner of the sodium acid sulfate type was being mixed with bleach. Another type of bowl cleaner, containing hydrochloric and oxalic acids, with a detergent, also reacts vigorously with bleach to release chlorine. Household ammonia, when mixed with bleach, produces highly irritating products. The mixing of even common household items should be attempted only with extreme caution for possible reactions.

(c) **paint, varnish, and removal of paint and varnish**

Much interior home wall painting is now done with water-based latex emulsions, which are virtually harmless, but oil-base paints and enamels are used for trim and for external application. Where solvents must be used as paint or varnish removers, or as paint thinners, inquiry into the specific hazards should be thorough, and adequate ventilation and fire precautions taken if required. This is especially important where paint and varnish thinners and removers contain highly toxic and flammable benzene and methanol. The delayed action of benzene on the red marrow is still not widely recognized in domestic circles.

(d) **fuels**

Many homes store small quantities of fuels of various types in addition to the more conventional fuels used for home heating. Gasoline is often on hand for use in power mowers, snow-throwers, blow-torches, and outboard motors and camp lanterns. If kept in a home, precautions recommended by the National Fire Protection Association and the National Safety Council should be observed. Needless to say, if any fuel (gasoline, oil, gas, wood, or charcoal) is burned without adequate air and ventilation, the hazard of carbon monoxide should be considered. Gasoline (both leaded and white) is a fuel, and should never be used for any other purpose than as a fuel in a properly designed system. Storage should be in approved metal containers, not in glass or plastic cans or bottles.

Recently liquid propane torches have become popular for home repairs to copper tubing, and for other small heating purposes. When selecting such devices, be certain they have been approved by Underwriters' Laboratory or other recognized authority, and are kept in good condition and free from leaks, to prevent accidental ignitions and explosions. Expended fuel cylinders should be buried, to prevent refilling or careless disposal in a fire where they may explode. For years, the use of kerosene, gasoline, and lighter fluid to kindle or "freshen" a fire, either in a fireplace, a stove, or in an outdoor grill, has caused tragedy when unexpected ignition and flashback occurs. In recent times, with the trend toward outdoor cooking, specially packaged charcoal lighter fluids are available to use on charcoal or wood-burning grills. These should not be used to "freshen" or "accelerate" a fire, since the volatility is too great and flashbacks and explosions can occur if conditions happen to be so disposed.

The vapors from all liquid fuels are heavier than air, and tend to accumulate in cellars, sumps, and other low areas, a fact which should be kept in mind wherever liquid fuels are stored or used.

The reaction between model airplane fuel and a disinfectant was noted previously. Incompatible chemicals should not be stored near each other. Well-ventilated storage areas, away from ignition sources, are recommended for all fuels. Household refrigerators are designed for the safe and proper storage of foods, but contain ignition sources which make their use for flammable substances, such as ether and other solvents in laboratories and hospitals, clearly unsafe. When a refrigerator is removed from service, the door should be removed to prevent it being used as a play area for small children.

(e) **dyes**

Home dyes are used for converting the color decor of rooms by re-coloring drapes, slip covers, clothing and other textiles. Precautions against potential hazards, especially skin discoloration and possible absorption, are specified by the manufacturers, and should be properly observed.

(f) **hair and beauty aids**

The complex chemistry and secret formula-

tions involved in beauty operations are difficult to appraise, for the wide variety of substances and different methods of application make control difficult if not impossible. Dermatitis is reported from nail lacquer, permanent waving solutions, hair dyes and tints, and lipsticks, as well as from other cosmetics. Very difficult to predict is the sensitization reactions which may occur, in which a substance, such as a paraphenylenediamine hair dye might also cause allergy to other substances, including aniline, benzocaine, sulfonamides, saccharin, azo dyes, or para-amino benzoic acid in some individuals. This is known as cross-sensitization.

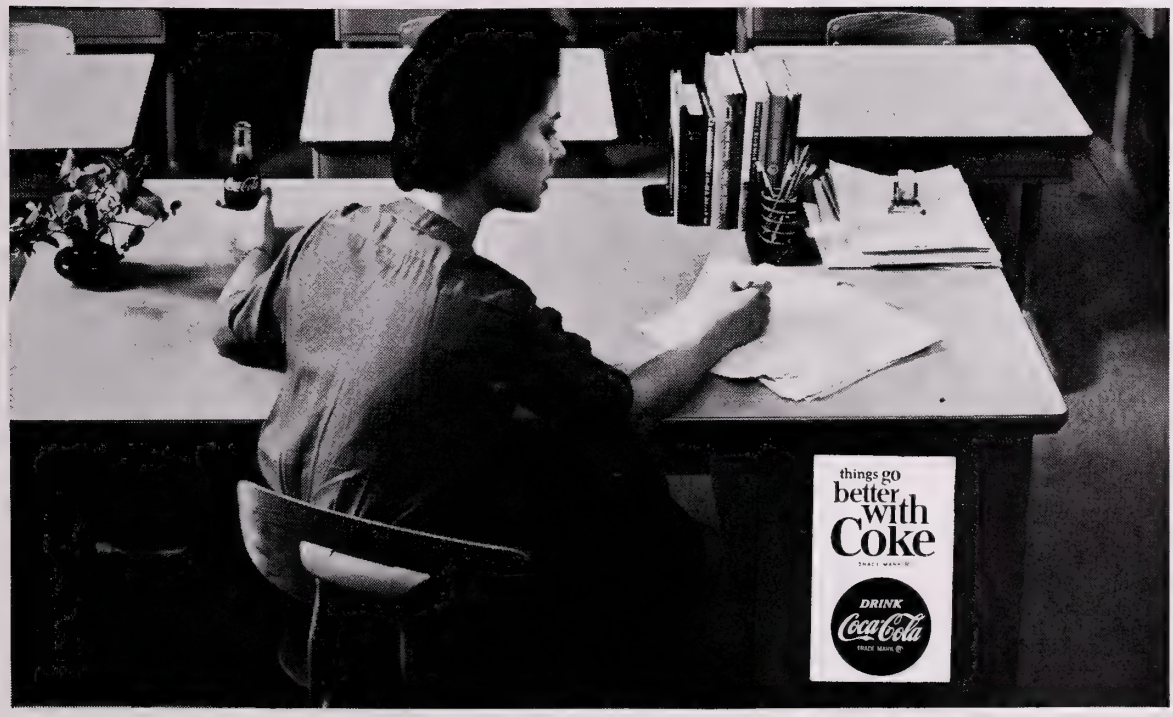
There are few cosmetics to which everyone is non-allergic, but the sensitization risk may be low. It is prudent, therefore, to inquire into the composition of preparations, both the vehicles and the active ingredients, and once an allergic reaction is noted, to exercise care to prevent exposure to the suspected agent in any form.

Perfumes are very complex mixtures, and even domestic air freshener perfumes may contain 20 ingredients. The main skin hazards noted from perfumes are contact-sensitization dermatitis, and photo-sensitization and pigmentation changes.

Of the three main classes of hair dyes, vegetable, metallic, and synthetic para oxidation dyes, natural vegetable dyes are considered relatively harmless, but synthetic organic and compound rinses may cause skin irritation. Metallic dyes, while staining the skin, are not likely to cause dermatitis. The synthetic para oxidation dyes may cause contact sensitization, and may be highly damaging to the eyes. In all cases, the specific precautions recommended by the manufacturer in the instructions should be followed to the letter.

(g) **solvent inhalation**

Some months ago, publicity was given the highly dangerous fad, practiced by teenagers, who inhaled the solvent vapors from plastic cement or from model airplane glue. Benzene, toluene, xylene, acetates, acetone, methyl ethyl ketone, and other volatile solvents produce an euphoria or sense of well-



Whether you're a teacher correcting exams. A student cramming for them. A housewife cleaning up after the kids. Or a businessman working late at night. Whoever you are, things go better when you pause and refresh with ice-cold Coca-Cola.



being. It is known that inhalation of many other common solvents, such as chloroform, trichloroethylene, and ether, can cause solvent addiction and ultimately injury to vital organs. The well known synergistic reaction between ingestion of alcohol and inhalation of carbon tetrachloride, which greatly enhances the toxicity of the carbon tetrachloride, probably has analogous counterparts which are less widely understood.

(h) **home fire hazards**

In terms of the chemical reactions involved in a fire, the average home has many substances which will either burn, melt, or decompose into toxic products. Wood, paper, and textiles of the cotton type will produce carbon dioxide and/or carbon monoxide, depending on conditions. Cellulose acetate and other esters at elevated temperatures will produce acidic products. Cooking, especially where oils, fats, butter, and greases are overheated, will burn or decompose into acrolein, carbon monoxide, and dense smoke. Even a few sausages or strips of bacon left in an unattended frying pan will produce sufficient volumes of toxic smoke to overcome persons who are not aware of the misadventure. These examples will suggest that the great hazard in a home may be from fire, gases or decomposition products, and a more complete understanding of the danger of smoke and other gases should be encouraged, as an aid both to home residents and to firemen. It is important to immediately evacuate a home even at the incipient stage of a fire and not to re-enter for any reason unless proper respiratory protection is used.

If a home fire extinguisher is available, it should be used **only** after calling the fire department. In this connection, it must be remembered that vaporizing liquid extinguishers, largely replaced in industry and marine application, are still found in many homes and automobiles and school buses, where the hazard from decomposition or intrinsic toxicity is seldom appreciated. The newer fire extinguishing agents, such as carbon dioxide, and the several types of dry powder extinguishers, are more effective as well as far safer for home use. No extinguisher is a substitute for prompt evacuation and a call for the fire department.

(i) **miscellaneous chemicals**

Hundreds of other substances not included above are used in home activities, in hobbies, or in small home industry. Some are so well known that, if the composition is known, the precautions can be easily recommended. Lye, used for opening plugged sink drains, sodium carbonate and trisodium phosphate mixtures used for home cleaners, and hydrofluoric acid used in etching glass and as a rust remover, are examples. Acetic acid, at one strength, is used as vinegar; at another strength, as a photographic chemical. Antifreeze used in automobile cooling systems, regardless of the type, is not a beverage, and should be carefully kept from children or anyone who might drink it. The important consideration is to insist on knowing what precautions the maker recommends, and to observe them to the letter.

An interesting example of how chemistry may eliminate the home use of a hazardous substance (containing lye) is the use of nonsticking plastic on the walls of domestic ovens, so the walls may be removed and the spattered soil removed with soap and water, as used in dishes. Such ovens are also designed with air purifiers, which remove smoke before it is released into the kitchen.

Conclusions:

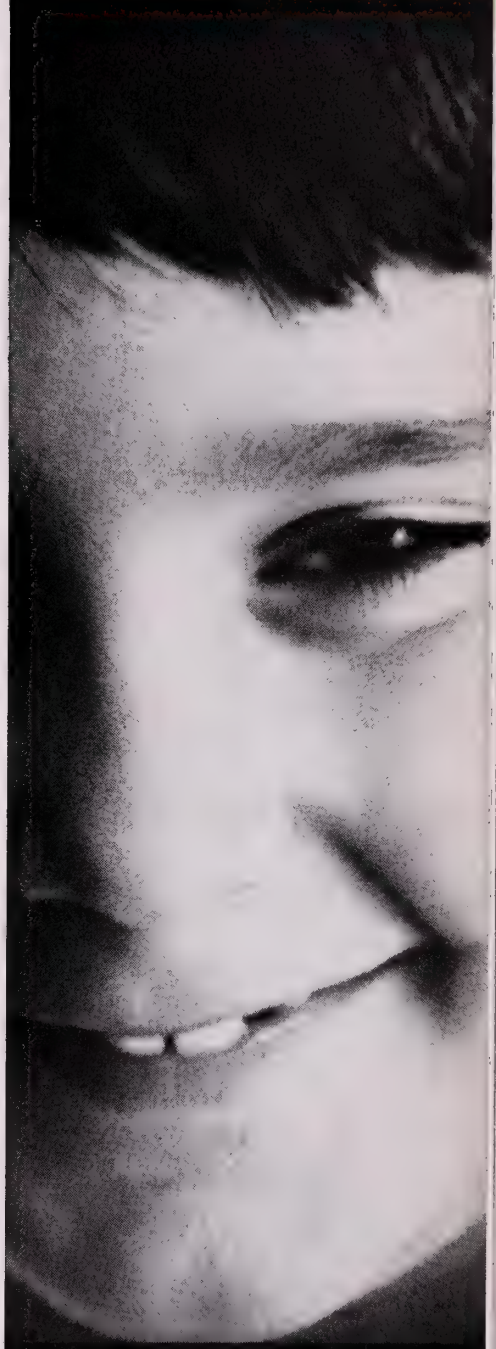
Chemicals, whether used in the home, in industry, or elsewhere, must be respected, and, along with the benefits, should be appraised in terms of potential hazards. An inquiry into "what is it and what are the hazards?" should be part of every application of a chemical, regardless of where it is used.

CHEMICAL HAZARDS—

(Continued from Page 45)

that are subclinical and not produced by exposure to toxic chemicals or drugs. But I fear I have already gone far beyond the limits of the subject assigned me. I can only offer again the excuse, "All's fair in the love of safety and the war against accidents."

because
it worked*
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he liked the way
it tasted

*By liquefying secretions in the respiratory tree, Cheracol made it easier for the patient to cough—in accord with the physiologic defense mechanism.

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PAN AMERICAN CONGRESS SUPPORTS APhA-WHO POSITION ON DRUG SUPERVISION BY PHARMACISTS

The Sixth Pan American Congress of Pharmacy and Biochemistry, held in Mexico City, December 7-14, unanimously endorsed the position of the World Health Organization by insisting that all drugs should be available to the public only with the personal professional supervision of a pharmacist.

The resolution was adopted by delegates from all countries in the Western Hemisphere in attendance, following the presentation of a Plenary Session address given by APhA Executive Director William S. Apple.

INSIGHTS SPOILS "DOUBLE BLIND" TEST

A silly sidelight, but a serious one, is that (FDA) labeling requirements have made some research on patients impossible. The placebo which is used instead of a drug on patients, to make sure that it's the drug and not the patient's attitude that causes changes in his condition, now must be labeled in such a way that he knows when he's getting the medicine and when he's getting the fake. It spoils the experiments. — Editorial in **Journal of the South Carolina Medical Association,** September 1963.

SAFETY TIP FOR FORCING FLOWERS INDOORS

Planning to force spring-blooming shrubs indoors? The University of Rochester Poison Control Center warns against using a plastic bag containing a cloth soaked in carbon tetrachloride as an "incubator" for forcing flowers.

According to the University of Rochester unit, inhaling even a small amount of carbon tetrachloride in a poorly ventilated room can cause toxic reactions. These may range from nausea and vomiting to liver damage, convulsions and even death.

Other types of cleaning agents which the experimental gardener might substitute for carbon tet also may be dangerous, say the Center's experts. The danger is especially great in cases where the solvents in such preparations may actually dissolve the plastic bag, permitting toxic fumes to escape freely into the room.



SOUTH DAKOTAN APPOINTED SQUIBB BRANCH MANAGER

The appointment of **Richard M. Mace** as Regional Sales Manager of the new Washington, D. C. region for E. R. Squibb & Sons, has been announced by George S. Squibb, Director of Sales. The new branch began operations January 1, 1964.

A native of South Dakota, Mr. Mace attended Northern State Teachers College before joining Squibb in 1948 as a Professional Service Representative in San Diego, California. Since then he has served as Sales Manager for Squibb Canada, New Products Manager for the New York Headquarters, and Trenton Divison Manager.

CONVENTION DATES SET

The Executive Board of the South Dakota Pharmaceutical Association has announced that May 17-19 will be the dates for the Annual Association Convention to be held in Mitchell.

BLISS WILSON RETIRES

Bliss Wilson, who has served as Secretary of the South Dakota Pharmaceutical Association for 22 years, has retired. Mr. Wilson's contributions to the Association have been innumerable. He has been a constant advocate of the highest principles of Pharmacy both on a State and National level. He has held offices in the National Association of Boards of Pharmacy and presently is President of that organization. He has also served as President of the South Dakota Pharmaceutical Association as well as the Secretary of the South Dakota Board of Pharmacy.

Mr. Wilson graduated from South Dakota State College in 1919 and prior to his service with the Association he operated a drug store at Letcher. He is married to the former Lulu Bacon of Gettysburg, South Dakota.

The Association has announced the appointment of Harold Schuler, former aide to the late Senator Francis Case, as the new Executive Secretary of the Association.

PROCEEDINGS OF ACA CONVENTION AVAILABLE

Bound copies of the "Proceedings" of the Annual Convention of the American College of Apothecaries are now available. The 121-page book contains twenty-five papers which were presented at the A.C.A. convention in October at the Greenbrier, White Sulphur Springs, West Virginia.

The "Proceedings" contains ten convention addresses on a variety of pharmaceutical topics, most of which are closely related to the everyday practice of the Community Pharmacist.

A limited number of copies of the Convention Proceedings book is available at a cost of five dollars ($5.00) each, from the A.C.A., Hamilton Court Hotel, 39th and Chestnut Streets, Philadelphia 4, Pennsylvania.

NEWS ITEMS FROM THE ALLIED DRUG TRAVELERS

Merlyn Albaugh has been appointed Corresponding Secretary for Allied Drug Travelers. Merlyn's duties will consist of handling correspondence and assisting **Jim Drey** with the Travelers' news section in the Journal.

If you have any news, inquiries, or correspondence address them to Merlyn Albaugh, 701 Pam Road, Sioux Falls, South Dakota.

Jim Drey, with CIBA Pharmaceutical Company, attended a two-day Regional Sales Seminar in Chicago during January.

It is also reported that Mr. Drey addressed the City League of Women's Organizations in January. His speech was entitled "The Medical Revolution." Mr. Drey pointed out that it is limited scientific knowledge, not lack of governmental regulations, that prevents us from guaranteeing the absolute safety of every drug. It was also pointed out that nine out of ten prescriptions written today could not have been filled in 1938. Due to the tremendous advance in medicine, the average life expectancy in the United States has increased from 49 years in 1900 to 70 years in 1963. The speaker noted that the new drug regulations caused a definite slow-down in new drug development. However, he said, the drug industry does not want a slow-down. We want to keep moving, discovering and marketing newer and better drugs.

VETERAN PHARMACIST DIES

Funeral services were held at Rude's Memorial Chapel in Brookings, South Dakota, on January 10, 1964, for **Charles A. Locke,** 83, veteran South Dakota pharmacist who died in a Yankton hospital on Tuesday morning, January 7. He had been in failing health for several months.

Mr. Locke owned and operated a drug store in Webster, South Dakota, from 1919 to 1928. From 1928 to 1939 he was a partner in, and co-owner of the Kendall and Locke Pharmacy in Brookings, South Dakota. In 1940 he became manager of the South Dakota State College Dispensary where he was in charge until 1944.

In addition to being active in the South Dakota State Pharmaceutical Association of which he was a past president, Mr. Locke was an active member of AF & AM, Royal Arch Masons, Order of the Eastern Star, Commandery, Shrine and Tau Chapter of Rho Chi.

He was preceded in death by his wife, Alice Shirk Locke, and is survived by several nephews and nieces.

WAYNE STATE UNIVERSITY DEAN SUCCUMBS

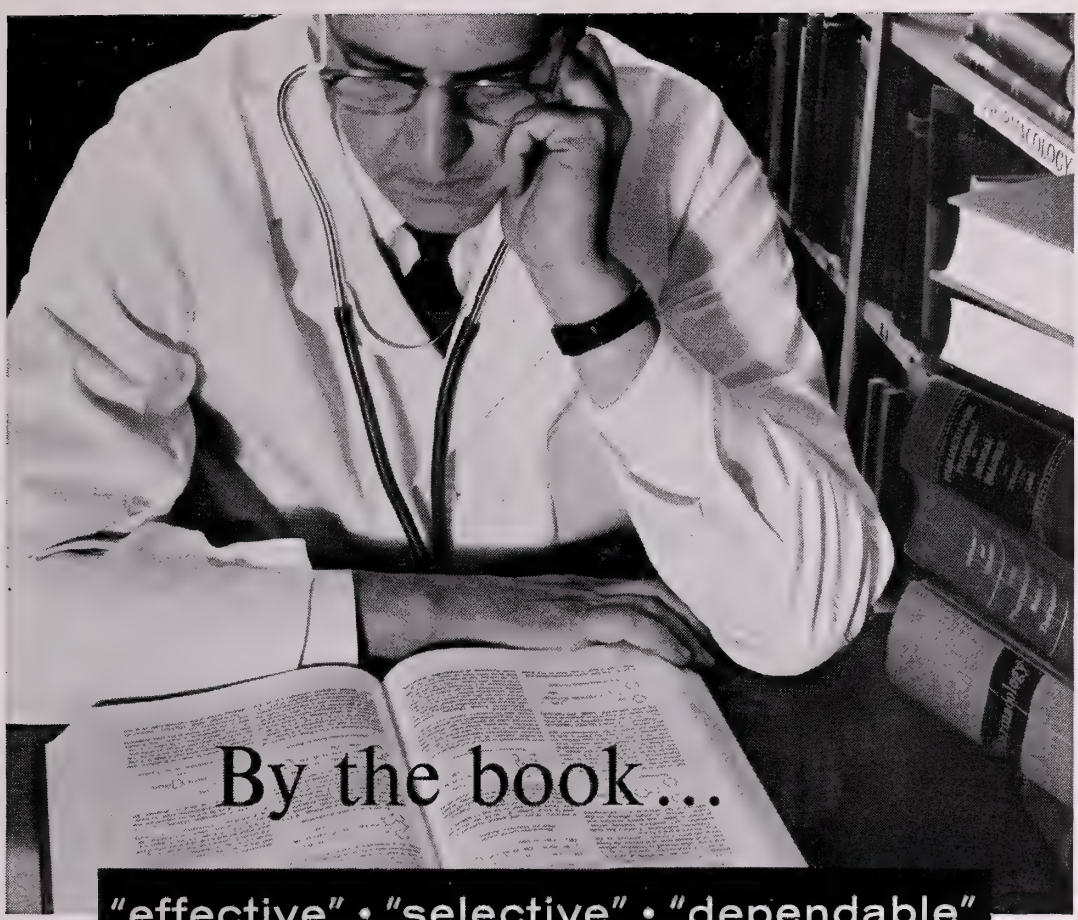
Stephen Wilson, dean of Wayne State University College of Pharmacy, died December 17 at his home in Grosse Pointe, Michigan.

Dean Wilson, active in affairs of the American Pharmaceutical Association since he joined the national professional society in 1925, served as Association Vice-President and Councilor in 1958-59, secretary and chairman of the Section on Pharmaceutical Economics, chairman of the Committee on Social and Economic Relations and as local secretary of the 1946 APhA Detroit Annual Meeting. He also served as president of the Michigan APhA Chapter as well as the Pittsburgh APhA Chapter.

HOWARD C. NEWTON SUCCUMBS

Howard Chamberlain Newton, former President of the American Pharmaceutical Association and Dean of the Massachusetts College of Pharmacy, died Sunday, January 5, 1964, of a heart attack at his home in Wellesley Hills, Massachusetts.

Dean Newton entered and graduated from the Massachusetts College of Pharmacy with the Ph.G. degree, and subsequently received the degrees of B.S., Ph.B., and A.M. from Creighton University. He then joined the teaching staff at Creighton becoming the dean of the college of pharmacy in 1916. In 1935 he returned to the Massachusetts College of Pharmacy and was named dean in 1937. During his career he was the recipient of many honors for his outstanding service to pharmacy.



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Arthralgen, a better-tolerated analgesic formulation of time-tested ingredients, works faster to free the arthritic from his pain without salicylate side effects. Since its analgesic components require no chemical conversion to act in the body, Arthralgen's pain relieving benefits are immediately available to provide a smoother, more rapid obtundation of pain than can be achieved with many true salicylates.

Arthralgen is especially useful for the prompt relief of early morning stiffness and pain with less risk of gastric irritation. And since Arthralgen contains no sodium it is safe for long-term use in arthritics who have other conditions which necessitate sodium restriction.

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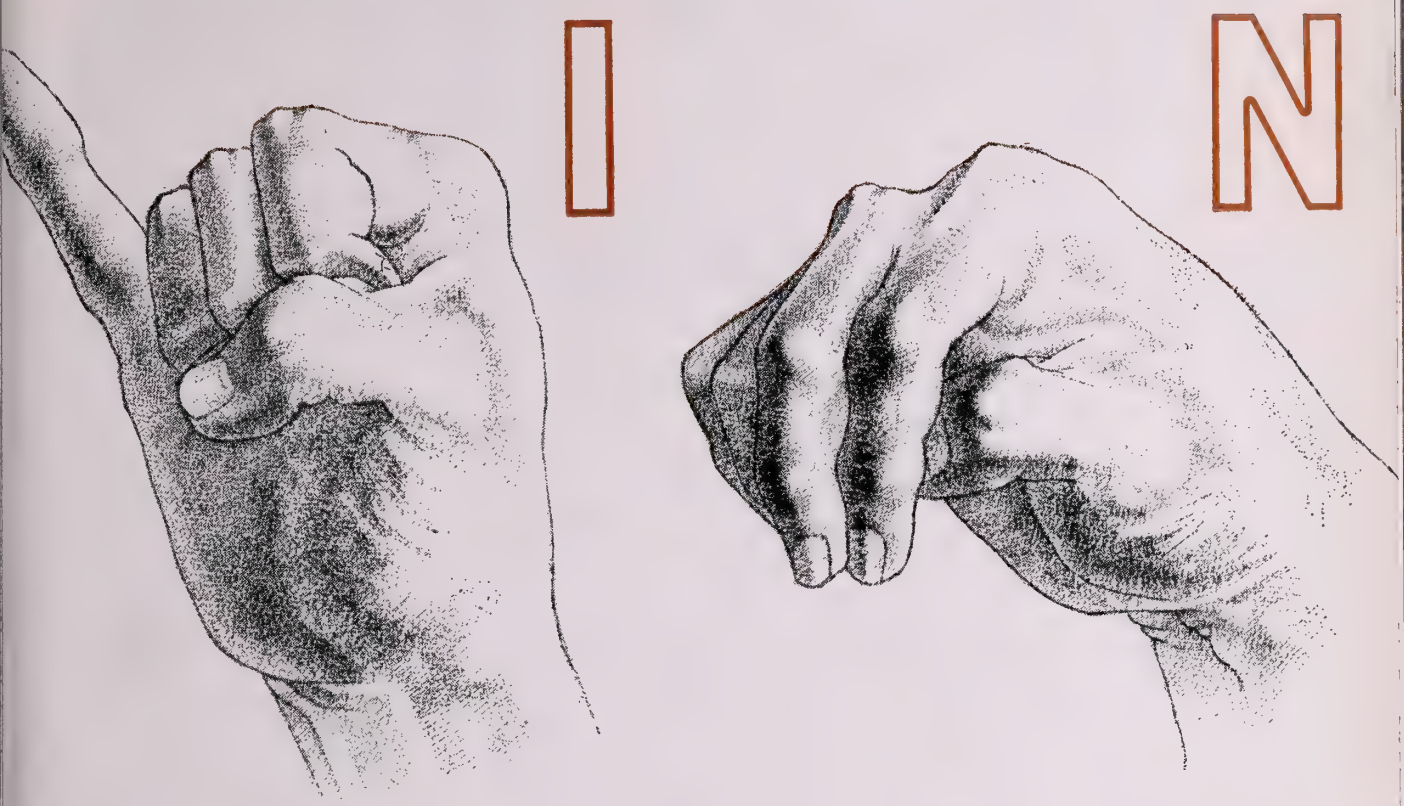
Salicylamide	250 mg.
Acetaminophen	250 mg.
Ascorbic acid (Vitamin C)	25 mg.
Prednisone	1 mg.

The basic Arthralgen formulation plus prednisone is indicated for patients who require steroids. Prednisone has three advantages over cortisone, hydrocortisone, and ACTH. They are: (1) lack of sodium retention, (2) absence of increased potassium excretion, and (3) the unlikelihood of steroid-induced hypertension.*

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gouty arthritis, rheumatoid spondylitis, osteoarthritis, bursitis, fibrositis, and neuritis. Arthralgen may be used for analgesia in colds, flu, and various myalgias.

DOSAGE: One or two tablets four times a day. After remission of symptoms, dosage should be reduced to the minimum maintenance level.

SIDE EFFECTS: Nausea, GI upset, or mild salicylism may rarely occur. Symptoms of hypercorticoidism dictate reduction of dosage of Arthralgen-PR.

PRECAUTION: Reduction in dosage of Arthralgen-PR given over a long period should be gradual, never abrupt.

CONTRAINDICATIONS: Hypersensitivity to any ingredient.

As with any drug containing prednisone, Arthralgen-PR is contraindicated, or should be administered only with care, to patients with peptic ulcer, tuberculosis, nephritis, diabetes mellitus, acute psychoses, Cushing's syndrome (or Cushing's disease), overwhelming spreading (systemic) infection, or predisposition to thrombophlebitis.

Arthralgen-PR is generally contraindicated in patients with uremia and viral infections, including poliomyelitis, vaccinia, ocular herpes simplex, and fungus infections of the eye. It is also contraindicated in patients with chicken pox or susceptible persons exposed to it.

SUPPLY: Arthralgen (white, scored) and Arthralgen-PR (yellow, scored) tablets are available in bottles of 100 and 500.

*Cohen, et al: J.A.M.A., 165:225, 1957.

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"The average practitioner is quite capable of handling the vast majority of ex-institutionalized patients by regulation of medication, reassurance, manipulation of the environment where necessary, and . . . other technics." Kline, N.S.: Postgrad. Med. 27:620 (May) 1960.

The family physician must often assume responsibility for the discharged mental patient. Thorazine (chlorpromazine, SK&F) can be a valuable adjunct to the continuing care of this patient, because it helps prevent relapses by insulating him from the impact of stressful experiences. For successful rehabilitation and prevention of rehospitalization, however, the former mental patient—and often his family—also needs the guidance and counsel of his physician.

Many physicians are surprised by the high doses of Thorazine (chlorpromazine, SK&F) used in patients released to their care from mental hospitals. This surprise may be expressed by a drastic reduction in dosage "to play it safe"—with serious consequences for the patient.

The successful maintenance of former mental patients requires adequate, often "high" dosage, and often for prolonged periods of time. Fortunately, these dosages do not mean greater risks for the patient. On the contrary, there is much less risk of serious side effects once a patient has become gradually accustomed to Thorazine (chlorpromazine, SK&F)—*regardless of dosage*—over a period of a few months. Continuing therapy is almost always well tolerated, and is essential to most patients' continued well-being.

Brief Summary: Thorazine (chlorpromazine, SK&F) has been successfully used for 10 years in the treatment of mental and emotional disturbances, and has proven highly effective in the maintenance therapy of former hospitalized mental patients. *Principal side effects:* The most frequently encountered side effect is transitory drowsiness. Other occasional side effects include: dry mouth, nasal congestion, constipation, miosis, dermatological reactions, photosensitivity, jaundice, hypotension, increased appetite and weight; very rarely, mydriasis, agranulocytosis, extrapyramidal symptoms. *Contraindications:* Comatose states or in the presence of excessive amounts of C.N.S. depressants.

For complete prescribing information, please see *PDR* or available literature.

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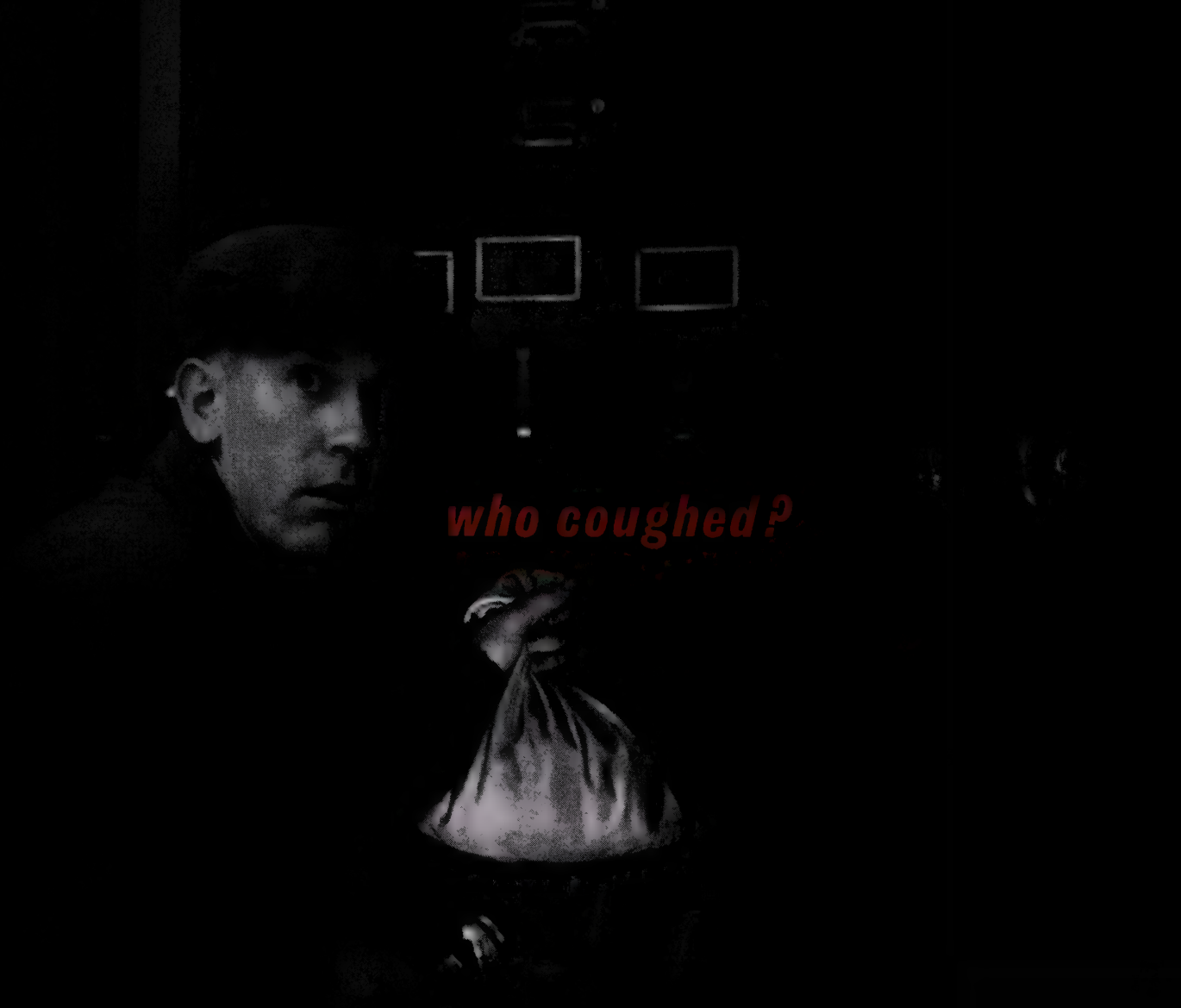
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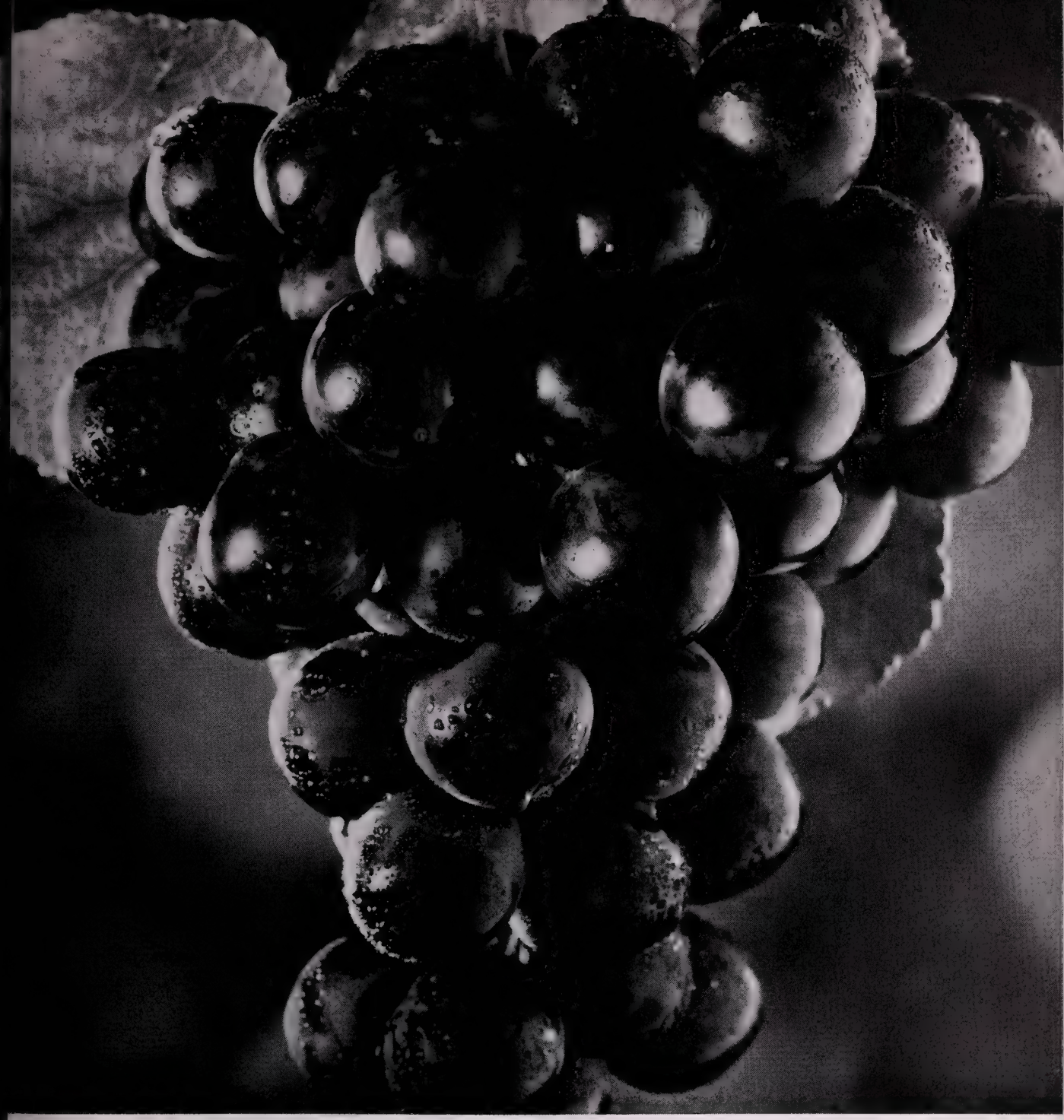
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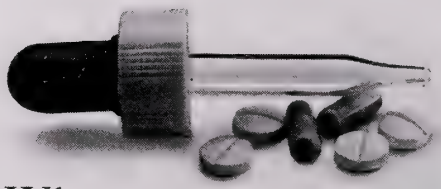
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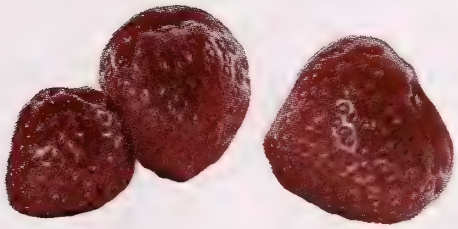
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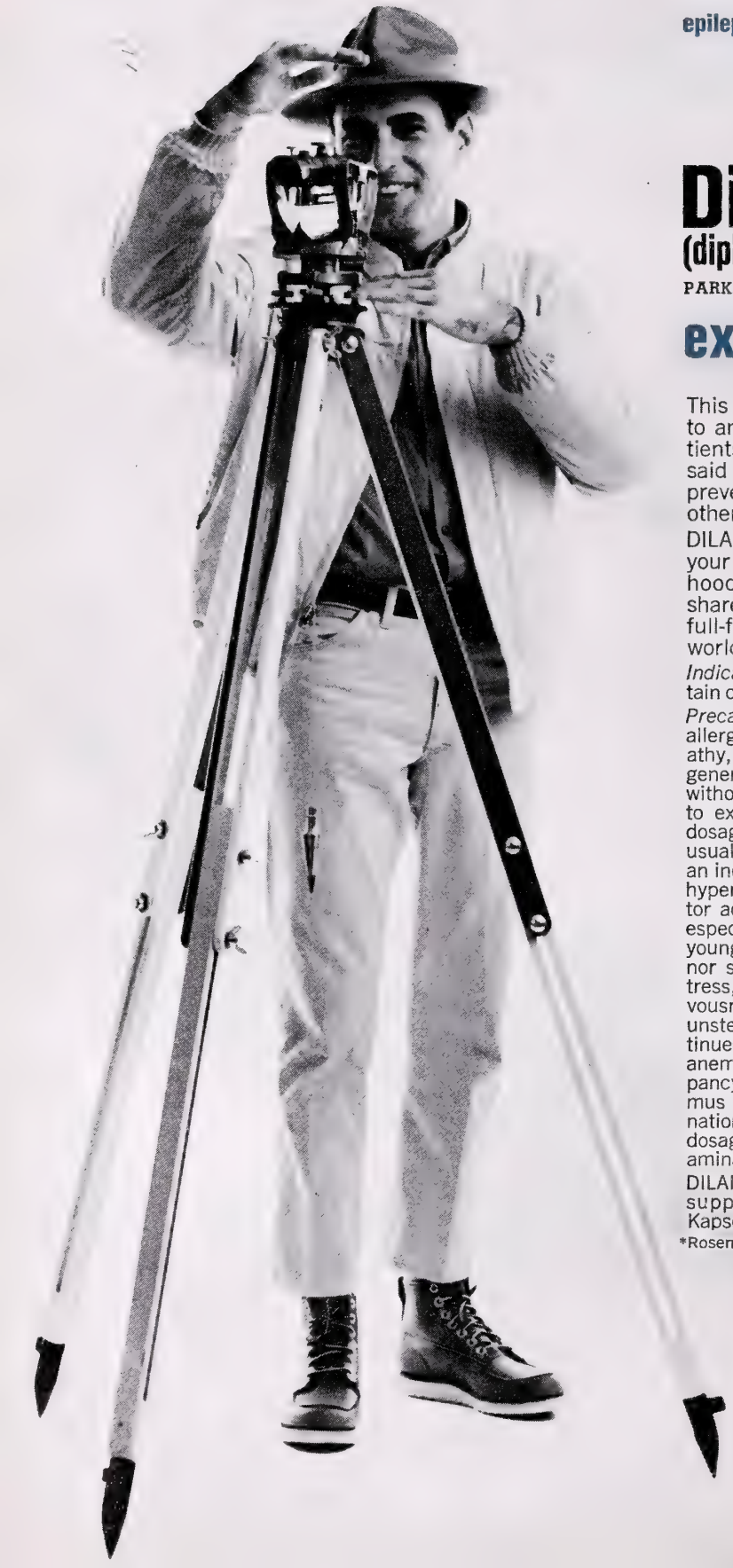
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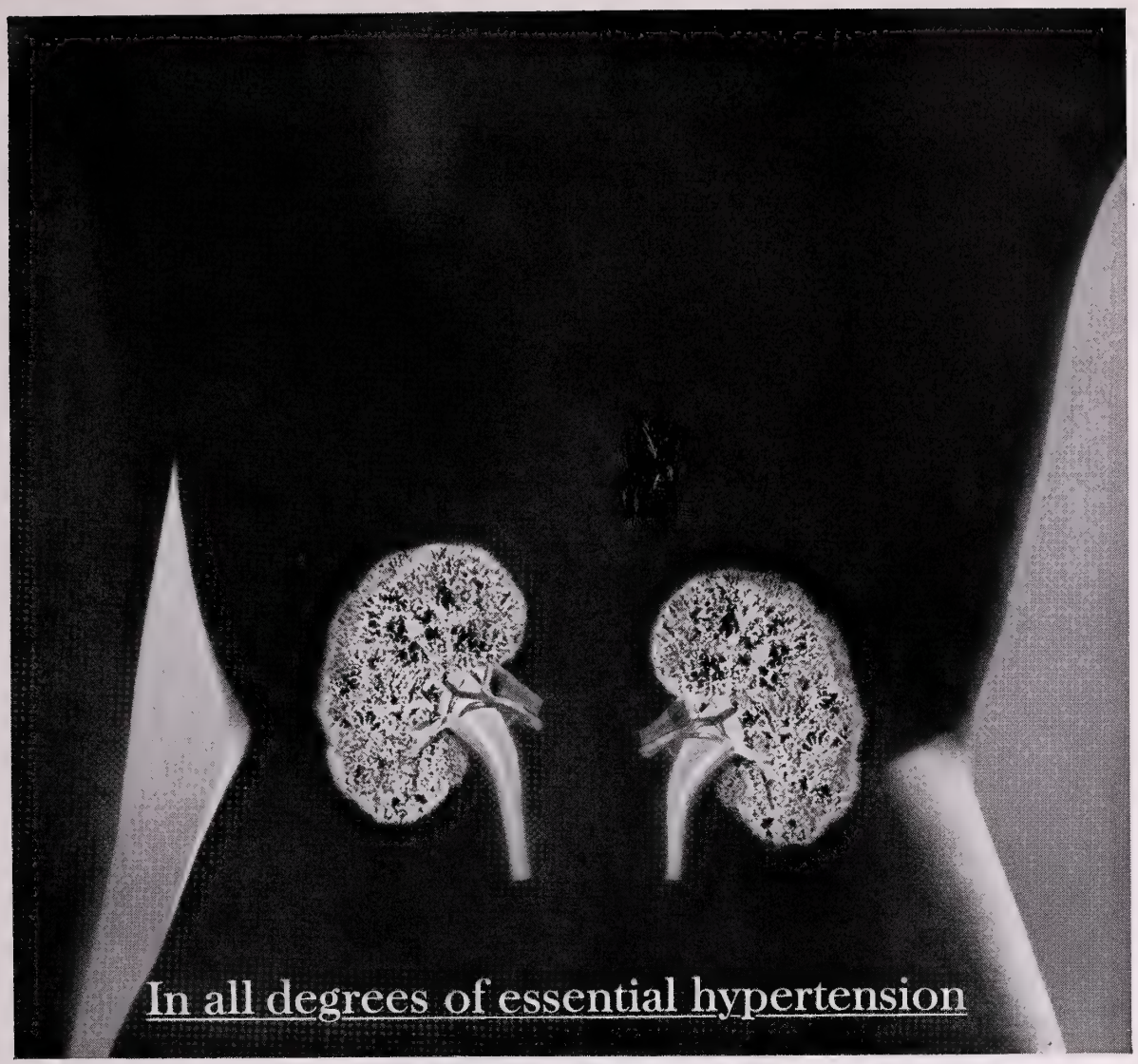
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References: (1) Moyer, J. H., and Heider, C.: Am. J. Cardiol. *9*:920 (June) 1962. (2) Brest, A. N., and Moyer, J. H.: Pennsylvania M. J. *63*:545 (Apr.) 1960. (3) Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. *10*:516 (June) 1962. (4) Hutchison, J. C.: Current Therap. Res. *4*:610 (Dec.) 1962. (5) Feldman, L. H.: North Carolina M. J.: *23*:248 (June) 1962.

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

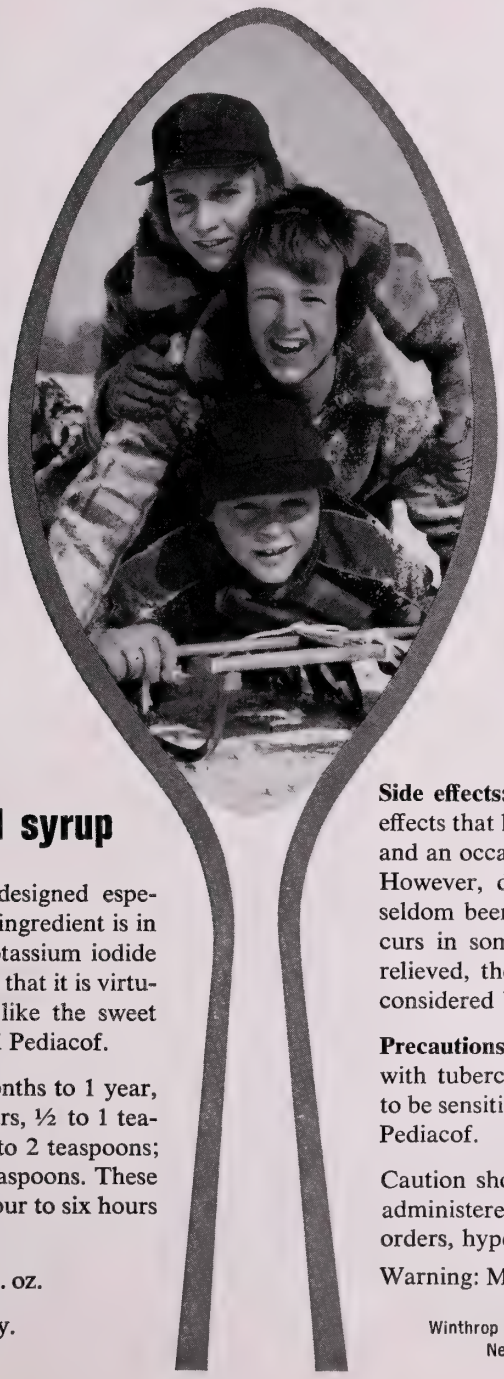
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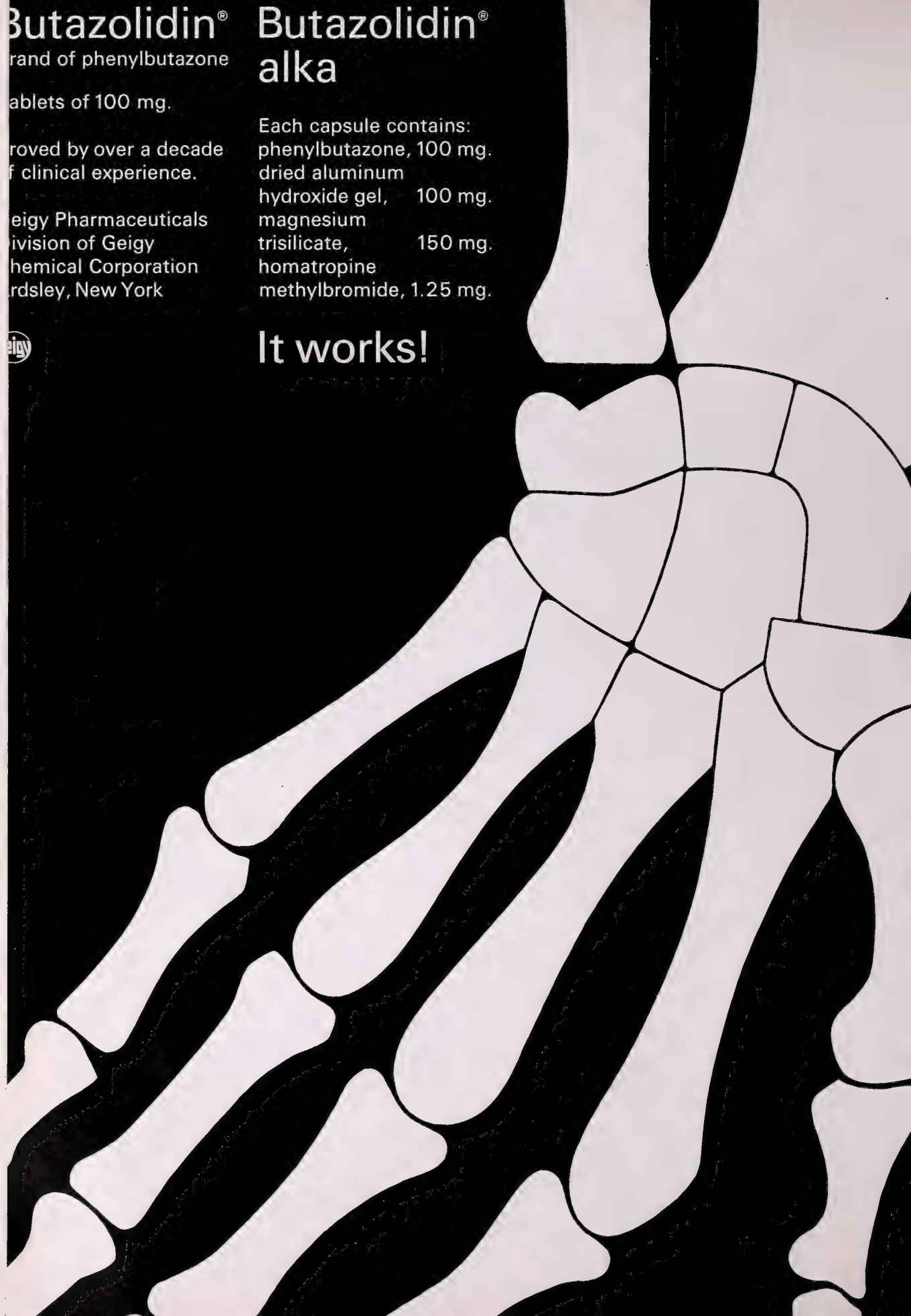
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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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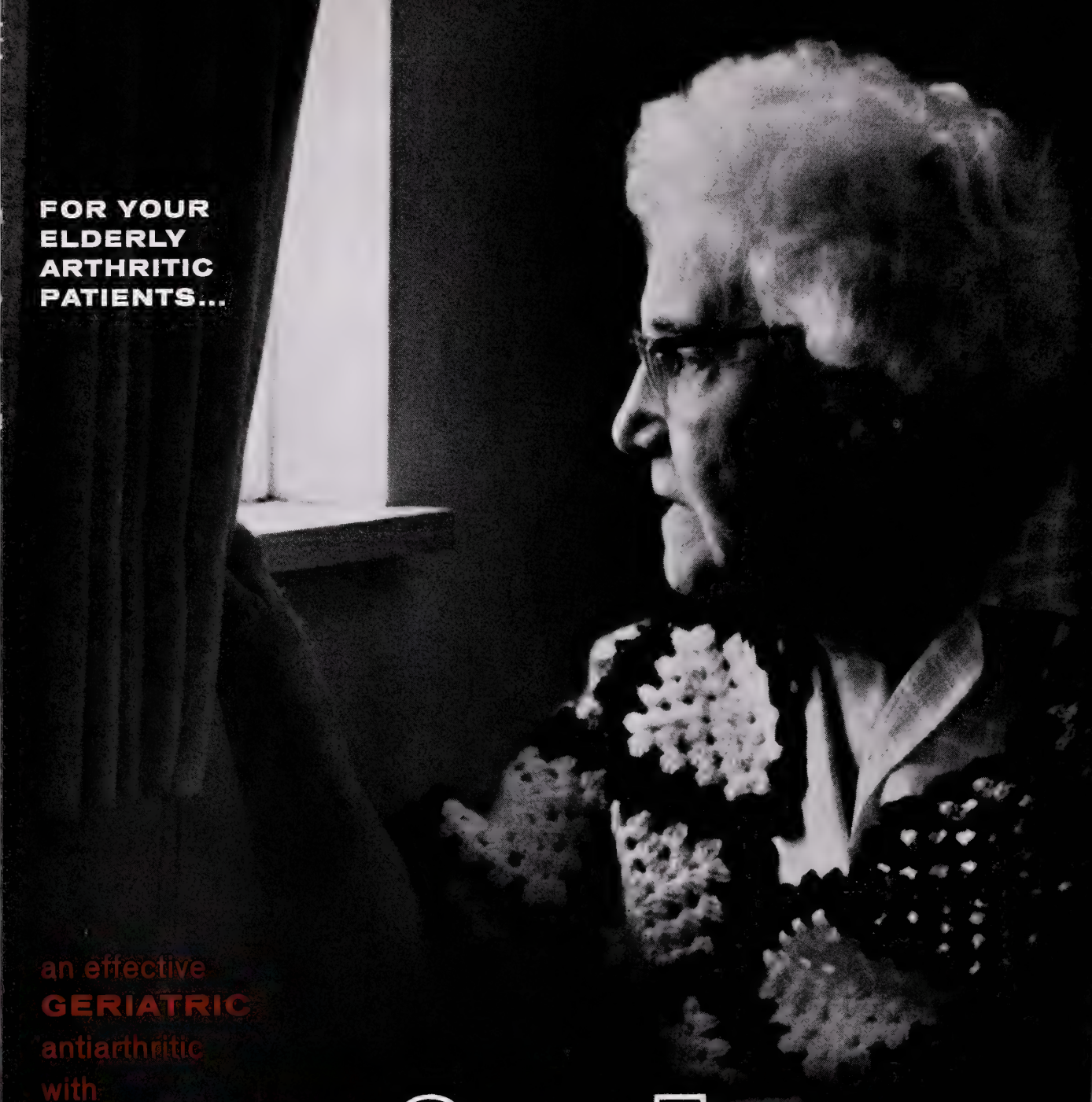
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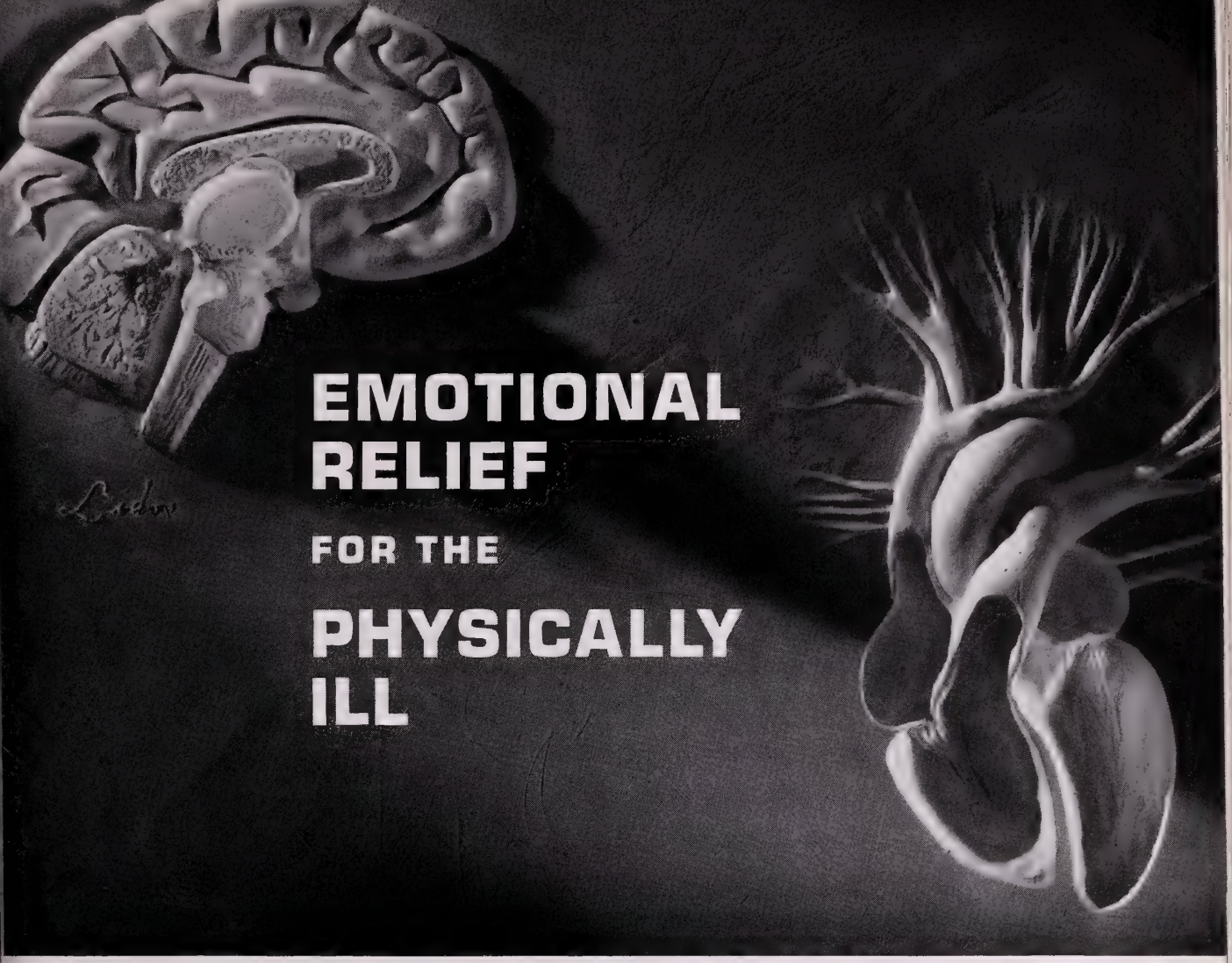
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PYLOROPLASTY AND VAGOTOMY — THEIR ROLE IN THE TREATMENT OF DUODENAL ULCER

by

Albin J. Janusz, M.D.
Aberdeen Medical Center
Aberdeen, South Dakota

Since Weinberg and his associates in 1950 published their series of 850 cases of Pyloroplasties and Vagotomies with 89.5% success, others have performed these procedures with similar results.

Farris and Smith reported 151 cases of duodenal ulcer in which various types of operative procedures were followed including vagotomy combined with pyloroplasty, gastro-enterostomy or limited gastric resection. Their conclusion was that vagotomy and pyloroplasty was superior in many aspects to vagotomy combined with gastro-enterostomy or with gastric resection.

McCullough in 1959 presented a series of 322 cases in which vagotomy combined with gastro-enterostomy or pyloroplasty versus gastrectomy were utilized in the treatment of duodenal ulcer. Analysis of his results shows the following: Vagotomy alone was used in 27 cases and found to be unsatisfactory since 37% of these patients developed post-operative retention requiring a second operation. In 93 cases, vagotomy and gastro-enterostomy were used with 1% mortality, 70% good results, 17% fair results and 12% poor results. The latter varied from recurrence to stomal ulcerations to obstructions. The author used vagotomy and pyloroplasty in 162 cases with 81% good results, 15% fair results and 4% poor results in the form of stenosis or recurrence.

Pierandozzi, Hinshaw, and Stafford from Los Angeles, in 1960 reported a total of 75

cases of acute perforation of duodenal ulcer and stated that their criteria for selection of patients for this operation were as follows: 1. No patient over 55 years of age. 2. Perforations which are relatively early, usually less than 12 hours. 3. Patients with excessive peritoneal spill were excluded except for young favorable patients. 4. No patients with persistent shock were used and 5. Patients with severe systemic disease or acute alcoholism were not included. In 90% of their patients there was a history of chronic ulcer disease. Their technique consisted of a Heineke-Mikulicz type of pyloroplasty followed by a standard subdiaphragmatic vagotomy. Excision of the ulcer region was performed in many cases. Mortality rate in their series was 1.3% and there were two significant complications with a morbidity of 2.6%.

In 1958, Weinberg reported a series of 30 cases of massive bleeding from duodenal ulcer, 24 of which were treated by suture ligation of the ulcer bed and pyloroplasty with vagotomy. His conclusion was that this procedure is superior to gastrectomy in the treatment of the acutely bleeding ulcer and stated that one advantage here is that if the bleeding recurred one could always resort to gastrectomy.

Stanley O. Hoerr stated that pyloroplasty and vagotomy may prove to be the best operation for active hemorrhage from a chronic duodenal ulcer.

PATHO-PHYSIOLOGY

Advocates of pyloroplasty and vagotomy as a method of choice in the surgical treatment of duodenal ulcer base their contention on the following: 1. Elimination of the all important cephalic phase of acid pepsin secretion by adequate vagotomy. The hypersecretion of acid so characteristic of duodenal ulcer patients is chiefly, if not entirely, dependent upon an exaggerated cephalic stimulation. In vagus section we have an effective method of abolishing this neurogenic phase and, with the decrease in secretion, healing of the ulcer follows. 2. Elimination of the gastric or antral phase of secretion through the denervation of the antrum, thus decreasing its motility which plays an important part in the stimulation of gastric secretion. 3. The preservation of the antrum itself, which according to recent investigations by Dragstedt, Wangensteen, Harkins, DuVal, Katz, plays an important role in the inhibition of acid secretion. This inhibitory action has been attributed by some to the release of a certain hormone and by others to suppression of gastric secretion. In addition, the antral mucosa excretes a mucinous substance which coats gastric mucosa and protects it against the acid-pepsin factor. 4. Preservation of the normal gastro-intestinal continuity; thus food and gastric juices follow their physiologic pathway from stomach into duodenum when they are mixed with pancreatic juice and bile. 5. Pyloroplasty is an effective means of eliminating any gastric retention subsequent to vagotomy and is much superior, and accompanied by far less complications than gastro-enterostomy. 6. Pyloroplasty is technically an easy operation and far less traumatic than gastric resection, and could be accomplished in much shorter time; thus it should be accompanied by less morbidity and less mortality.

COMPLICATIONS AND RESULTS

The long term results of treatment by pyloroplasty and vagotomy are essentially the same as with antral resection and vagotomy as reported by Weinberg, Farris and McCullough. Most failures are attributed to the following: 1. Incomplete vagotomy. 2. Inadequate pyloroplasty; in the form of stricture or stenosis.

To insure an adequate pyloroplasty, which is usually of the Heineke-Mikulicz type, a diameter of not less than 2.5 to 3 centimeters should be constructed. A one-layer closure is recommended by most, consisting of interrupted sero-muscular non-absorbable suture. The incidence of recurrence is quoted from 2 to 5%. Where recurrence of the ulcer is found or persistence of symptoms, the fault usually is found with an incomplete vagotomy as demonstrated by the Hollender Insulin test.

The two hour insulin test as described by Hollender and recently by Stampien is a good criteria for evaluating the completeness of a vagotomy.

In general, the best results are obtained in the patient with the obstructing ulcer, with the highest volume of acid secretion and positive x-ray findings. The poorest results

are obtained in the patients with the maximum of complaints, the so called intractable ulcer, but the fewest abnormal objective findings. The results as listed by the advocates of the procedure are as follows: 1. 90 to 95% satisfactory results, namely no evidence of persistence or recurrence or any disabling complications and sequelae. 2. 5 to 10% poor results which consist of 2 to 5% recurrence of the ulcer and the other with some disabling sequelae of retention, diarrhea, dumping, bleeding, and emotional stress. 3. Mortality of this procedure is 0.5% to 1%.

INDICATIONS AND CONTRAINDICATIONS

The application of this method of treatment has been extended to include all varieties of duodenal ulcer and its complications, when surgical intervention is indicated. This pyloroplasty and vagotomy could be used for:

1. Intractable duodenal ulcer.
2. Duodenal ulcer with obstruction.
3. Duodenal ulcer with hemorrhage, acute and massive.
4. Perforated ulcer.

This procedure with its ease of performance and low mortality particularly lends itself to the elderly poor risk ulcer patient with bleeding obstruction or perforation as a definite procedure.

The contraindications are:

1. Constriction and distortion of the pyloro-duodenum by scarring and edema.
2. Dilated, low hanging stomach.

CONCLUSION

Pyloroplasty and vagotomy as a definitive treatment of duodenal ulcers are based on sound physiological principles with good results and low morbidity and mortality. This procedure is presented not to replace the time honored hemigastrectomy and vagotomy but as another method of treatment of this complicated disease. No one operation is completely successful in the treatment of duodenal ulcers. The operations may be physiologically sound but the wrong procedure for the individual patient. Surgeons operating for duodenal ulcer should be prepared to perform any of the currently standard procedures, including vagus transection with a drainage procedure, or gastric resection with or without vagus transection. When many more surgeons are willing to try this procedure and evaluate its results objectively, pyloroplasty and vagotomy will be the choice in the treatment of chronic duodenal ulcer. Failures are usually due to an incomplete vagotomy or an inadequate pyloroplasty.

The operation affords the surgeon good visualization of the ulcer area at the operation, is more effective in eliminating antral stasis and decreasing regurgitation of jejunal contents into the stomach, and facilitates subsequent operative procedures.

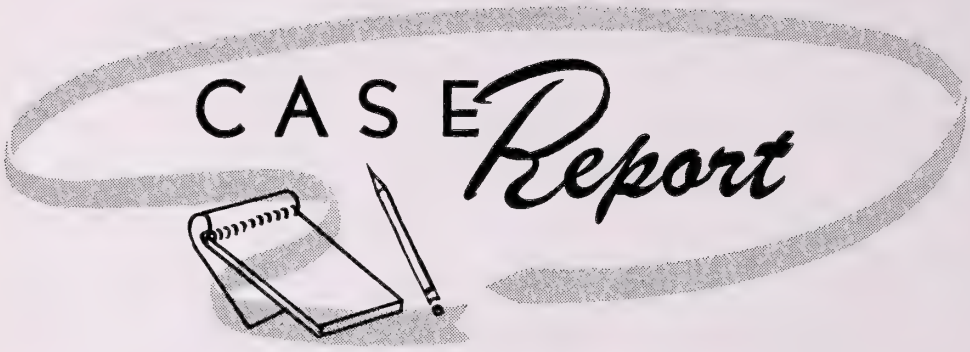
SUMMARY

Pyloroplasty and vagotomy as described by Weinberg, Farris, Smith and McCullough in the treatment of duodenal ulcer produces good results in about 90% success and low morbidity and mortality. Recurrence of symptoms occur in 2 to 5% and are due to an incomplete vagotomy as demonstrated by the two hour Hollender test or an inadequate pyloroplasty. The procedure is based on elimination of antral stasis and abolishing the cephalic phase of hypersecretion by a subdiaphragmatic vagotomy. The ease of performance, good visualization of the ulcer bed, low morbidity and mortality with no nutritional disturbance and excellent results make pyloroplasty and vagotomy a procedure of choice in the definitive treatment of duodenal ulcer problems.

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(Continued on Page 24)



PULMONARY THROMBOSIS: A CASE REPORT

By

John T. Tidd, M.D.*

Pulmonary thrombosis is a rare condition practically never recognized clinically and not often seen at autopsy. In contrast pulmonary embolism is a common occurrence of major importance which is responsible for about 3.5% of deaths among hospitalized adults and observed in about 10% of adult autopsies.[1] This article reports the case of a young adult who had bilateral pulmonary thrombosis associated with right heart failure and endocardial fibroelastosis (endocardial sclerosis).

Less than 100 cases of thrombosis of a major pulmonary artery have been reported. Kampmeier[2] reviewed 23 cases in the literature and added one of his own. Magidson and Jacobson[3] reported on 9 additional cases. Other examples have been added by Means and Mallory,[4] Brenner,[5] Montgomery,[6] and Balboni.[7] Almost 50% of the reported cases showed bilateral pulmonary thrombosis.[2] Thrombosis of the major pulmonary arteries has developed as a complication of pulmonary tuberculosis, emphysema, pneumoconiosis and conditions of heart failure.[1]

Report of a Case: History — A 34 year old white male had had a long history of "heart disease" which was considered to be a form of chronic myocarditis. His physician had observed him over a 2 year period during which he had had several episodes of cardiac failure, and prior to that he had been treated for the same condition by other physicians. These episodes had been easily controlled by digitalization, but he had been erratic in following medical advice. His physician noted that he had an enlarged heart and his blood

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pressure was in the hypotensive range (around 90/60). Previously he had refused hospitalization or consultation concerning his condition.

However, on 3-4-63 he was hospitalized in the Community Hospital at Gregory, South Dakota because of epigastric pain, leg cramps, marked dyspnea and vomiting. He had become ill on 3-2-63 with "flu" characterized by fever, muscular aches and pains, and weakness. He became dyspneic and developed steady, sharp, sometimes cramping epigastric pain. He had stopped taking his digitalis preparation some months before for no apparent reason.

Examination — B.P.-82/44; P-96; R-28; T-101°F. He was moderately cyanotic and dyspneic. His heart was somewhat enlarged, revealed no murmurs, and had a sinus tachycardia. There were moderately diffuse bilateral rales in the lungs, most marked in the bases. The liver was enlarged 2 finger breadths below the right costal margin associated with slight tenderness in the mid-epigastrium. There was a recent burn on the skin over the right hip about 4 cm. in diameter. No peripheral edema was noted.

Special studies — Urinalysis revealed 1+ albumin, no sugar, and occasional WBC and RBC. The hemogram showed hemoglobin — 17.2gm%; hematocrit — 48%; and leukocyte count—9,250 with 77% segmented polymorphs; 17% lymphocytes; and 6% monocytes. An ECG recorded on 3-4-63 was similar to one taken on 8-8-61. It revealed right ventricular hypertrophy or bundle branch block and changes consistent with myocardial damage and/or digitalis effect (Fig. 1). A chest x-ray film made on 3-4-63 revealed borderline cardiac enlargement; some prominence of the pulmonary conus; no pulmonary edema; increased markings by the large vessels; and multiple scattered foci of calcification (Fig. 2). A scout film of the abdomen showed moderately marked liver enlargement.

Clinical course — He was placed upon a salt free diet; Mysteclin F; digitoxin; oxygen; and Gelusil. He was given tetanus toxoid, and Neosporin ointment was applied to the burn. He remained dyspneic, and he con-

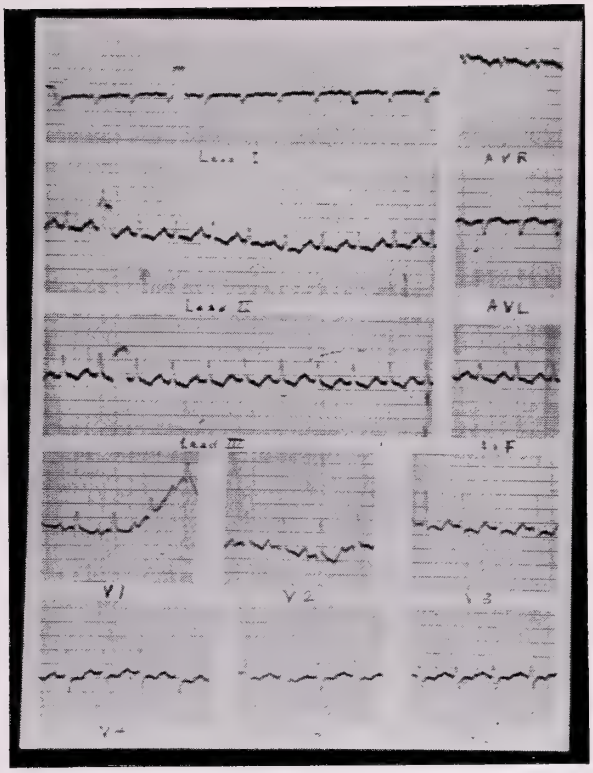


Fig. 1. An electrocardiogram recorded on 3-4-63 showing right ventricular hypertrophy or bundle branch block and changes consistent with myocardial damage and/or digitalis effect.



Fig. 2. The x-ray film of the chest shows borderline cardiac enlargement; some prominence of the pulmonary conus; increased markings by the large vessels; and multiple scattered foci of calcification.

tinued to have severe epigastric pain. His temperature returned to normal on 3-5-63. On the evening of the second hospital day he began to have vivid hallucinations; he complained of non-existent red lights shining in his eyes and talked to imaginary things. His blood pressure remained in the range of 80/66. On the third hospital day his pulse which had been 90 to 100 became weak and thready. He continued to hallucinate, and his cyanosis, dyspnea and epigastric pain grew worse. He died on the morning of 3-6-63.

Autopsy findings — Postmortem examination was performed 5½ hours after death and prior to embalming. The body was well developed and well nourished; edema and icterus were absent; and the lips, ear lobes, and nail beds were cyanotic. There was a 4 cm. in diameter dark red, crusted area on the lateral surface of his right hip. His chest was broad and flattened in the anteroposterior diameter. The pericardial sac revealed an effusion of about 400 ml. of yellow-tan turbid fluid. The heart weighed 650 gm., and the myocardium was red-brown and flabby without gross evidence of hemorrhage. All the chambers were dilated, especially the right atrium and ventricle. In the right ventricle and to a lesser extent in the left ventricle there were several large patches of dense, homogeneous, gray-tan material in the endocardium especially over the papillary muscles. The coronary arteries were patent, but exhibited scattered sclerotic plaques in their intima. Microscopically the endocardium contained patches of marked thickening by dense fibrous tissue. In the interstitial connective tissue of the subjacent myocardium there were occasional large collections of mononuclear leukocytes including many pigmented macrophages (Fig. 3). The aorta contained many arteriosclerotic plaques.

The right lung weighed 800 gm. and the left, 830 gm. The lower lobes were partially collapsed, and there was a small amount of yellow-tan fluid in each pleural space. Multiple sections showed generalized edema especially in the upper lobes. Approximately 1 cm. beyond the bifurcation of the pulmonary artery, each main branch contained a large, smooth, polypoid mass of pre-mortem



Fig. 3. A photomicrograph of the right ventricle of the heart showing a zone of endocardial fibroelastosis. 63X.

thrombus projecting into the lumen and diffusely attached to the vessel for a distance of several cm. The left pulmonary artery was markedly dilated and contained the larger thrombus which almost entirely filled the lumen of the vessel (Fig. 4). Microscopically, the pulmonary arteries revealed moderately severe atherosclerosis and demonstrated extensive attachment of the thrombotic material to the vessel walls (Figs. 5 and 6). The alveoli contained many pigmented macrophages, evidence of edema fluid and thickening of the alveolar walls. In the right upper lobe there were large patches of bronchial pneumonia.

The right leaf of the diaphragm on the peritoneal aspect contained a large cystic structure 6 cm. in diameter which had a lobulated configuration. On section this was filled with clear fluid and had a wrinkled, red-gray lining, composed of one or more rows of mesothelial cells and devoid of an associated inflammatory reaction. The peritoneal cavity contained a small amount of yellow-tan turbid fluid. The spleen weighed 270 gm. and showed evidence of marked pas-



Fig. 4. Photograph of the left lung with an arrow indicating the thrombus in the left pulmonary artery.

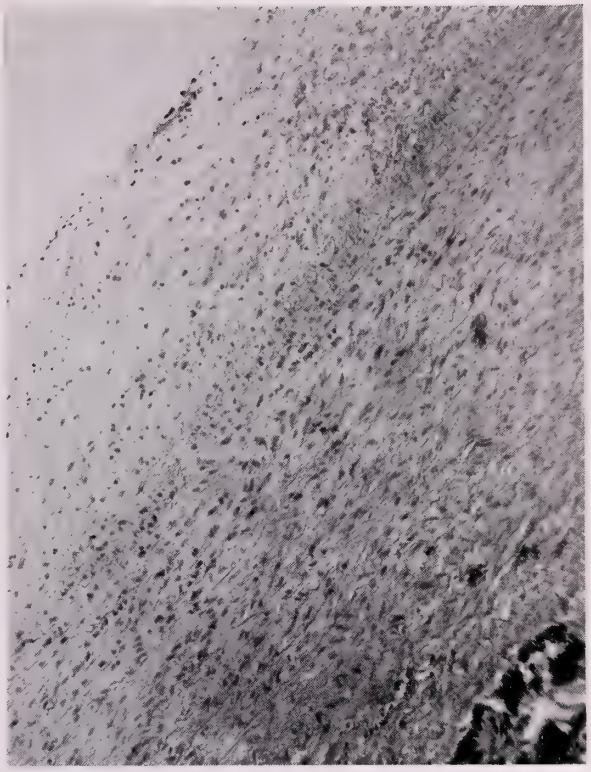


Fig. 5. A photomicrograph of the left pulmonary artery exhibiting prominent atherosclerotic changes. 63X.

sive hyperemia. The liver weighed 2,550 gm., had a smooth, semi-translucent capsule, and exhibited marked passive hyperemia. The other organs including the brain, kidneys, adrenals and gastrointestinal tract were not remarkable other than for evidence of passive hyperemia. Table I summarizes the anatomic diagnoses.

TABLE I
ANATOMIC DIAGNOSES

1. Thrombosis, pulmonary arteries, primary branches
   a. Atherosclerosis, pulmonary arteries, severe
   b. Hypertrophy (and dilatation) heart, marked (cor pulmonale)
   c. Edema, lungs, massive
   d. Hydropericardium
   e. Endocardial fibroelastosis (endocardial sclerosis)
   f. Hyperemia, viscera, passive, severe
2. Pneumonia, right lung, upper lobe, bronchial
3. Burn, right hip
4. Cyst, diaphragm, mesothelial

Comment: Usually pulmonary artery thrombosis is associated with generalized pulmonary atherosclerosis and this leads to pul-

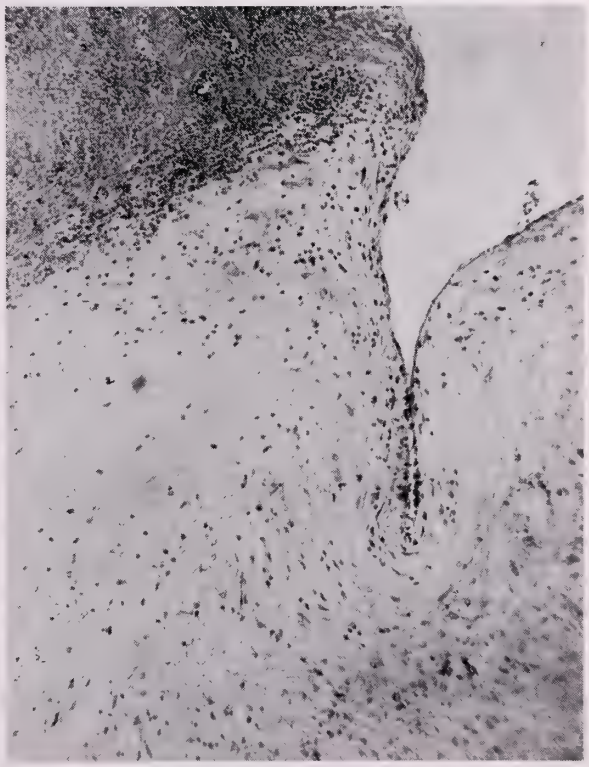


Fig. 6. A photomicrograph of the left pulmonary artery showing the attached thrombus and atherosclerosis.

monary hypertension, increased stress on the right side of the heart and right ventricular failure.[1, 8] In our case it would seem likely that he had had pulmonary hypertension and atherosclerosis for several years in view of the repeated episodes of cardiac failure. The development of bilateral pulmonary thrombosis was closely related to his final illness, which perhaps was "triggered" by an attack of influenza. These thrombi by obstructing the pulmonary arteries and producing increased resistance to blood flow in the pulmonary system led to marked elevation of his pulmonary blood pressure and irreversible right sided heart failure.

As Spencer[1] points out it is usually impossible to determine whether intravascular thrombi are autochthonous or embolic in origin since the conditions which favor embolism are similar to those under which thrombosis develops. He and others[2, 3] favor the view that the thrombus supervenes upon a previous embolus and spreads backwards against the blood flow until the main artery is reached. Once a large embolus has markedly diminished the arterial blood flow, it is possible for the thrombosis to proceed in both directions from the site of obstruction.

Endocardial fibroelastosis has been described in a variety of cardiac diseases and it has been concluded that there are no constant cardiovascular phenomena associated with ventricular endocardial fibroelastosis although congestive cardiac failure is usually the main clinical finding. Endocardial fibroelastosis "is probably a compensatory endocardial response to underlying myocardial weakness."[9]

Severe epigastric pain, which was this patient's main complaint, is often due to a rapidly enlarging liver as a result of cardiac failure. Hallucinations can be caused by many different agents and conditions, but it is probable in this man that they were related to cerebral anoxia secondary to diminished cardiac output.

Summary: The clinical and pathological features of a patient with bilateral pulmonary thrombosis associated with right heart failure and endocardial fibroelastosis have been presented together with a brief review of the literature and a discussion of the pathogenesis of the condition. Physicians should be alerted to the possibility of this condition in patients with pulmonary hypertension and/or right heart failure.

The author wishes to thank Dr. D. R. Studenberg, Gregory, South Dakota, for access to and help with the clinical data. Also he wishes to thank Dr. Earl Scott for taking the photomicrographs, and Mr. John Barstow for taking the photographs of the chest x-ray film and E.C.G.

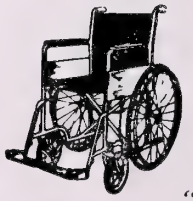
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(Continued from Page 19)

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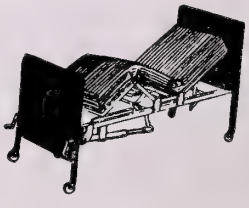
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BORG-WARNER DESIGNS NEW OPERATING ROOM



An operating room large enough to permit two simultaneous operations (as might some day be done in transplanting organs) is part of the world's largest and most advanced high-pressure oxygen center, which opened February 5 at Lutheran General Hospital, Park Ridge, Ill., a suburb of Chicago. It is between the center's two other high-pressure oxygen units: a 41½-foot long chamber that accommodates six bed patients and a 23-foot, 4-inch chamber for recompression and research. The operating room has double doors so that its lock can be at a higher pressure if necessary. A pivoted ramp in the doorway allows stretchers to be wheeled over the raised sill. Conductive flooring is removable, square by square for cleaning and access to piping below. Removable mesh ceiling hides intricate piping, electrical conduit and air handling equipment, and makes the chamber look more roomlike. Walls are a relaxing, light lime shade. In designing this system, Borg-Warner Corporation engineers and the hospital research teams took psychological factors into full consideration. The John A. Hartford Foundation provided half the funds to build the million-dollar facility. Its use offers great hope in treating heart disease, circulatory ailments, stroke, shock, and other types of illness and injury.

MINUTES OF THE COUNCIL MEETING ON JANUARY 9, 1964 HELD BY CONFERENCE TELEPHONE CALL at 3:00 P.M.

The meeting was called to order by president **Robert H. Hayes, M.D.** Present were **Drs. R. H. Hayes, J. P. Steele, Paul Hohm, A. P. Reding, R. R. Giebink, Magni Davidson, J. J. Stransky, M. C. Tank, L. C. Askwig, E. T. Lietzke, T. H. Sattler, E. P. Sweet,** and **E. A. Johnson.** Absent were **Drs. E. J. Perry, F. D. Leigh, P. P. Brogdon, J. T. Elston,** and **H. E. Lowe.**

Dr. Hayes announced the decision of John C. Foster, executive secretary of the South Dakota State Medical Association, to resign that position and accept an offer from Arizona Blue Cross and Blue Shield to act as executive director of that operation. Dr. Hayes asked the officers and councilors to talk to members of their Districts and be prepared to name a successor to Mr. Foster at the Council meeting to be held on January 19, in Sioux Falls. Dr. Hayes indicated that letters would be sent to the absent members of the Council explaining the situation to them, so they would have all the facts prior to the Council meeting. The meeting adjourned at 3:20 P.M.

COMMITTEE ON LEGISLATION MEETING

Saturday, January 18, 1964

Sheraton Cataract Hotel **4:30 P.M.**

The meeting was called to order at 4:30 P.M. Present were **Dr. Robert H. Quinn,** chairman of the committee; **Dr. W. T. Sweeny, Dr. M. C. Tank,** Mr. Richard C. Erickson, and Mr. John C. Foster.

Dr. Quinn read the minutes of the previous meeting. Dr. Tank moved that the minutes be approved as read. The motion was seconded by Dr. Sweeny and carried.

Mr. Erickson reported on activities at the State Legislature in Pierre.

Dr. Quinn moved that the Committee recommend to the Council that the Association go on record as supporting the bill introduced by the American Legion concerning child beatings. The motion was seconded by Dr. Sweeny and carried.

A report was given on the status of the Kerr-Mills bill in the legislature; the bill to raise the annual Board registration fee from $2.00 to $5.00; House Bill 550, which is a companion bill to the M.A.A. bill and concerns the funds appropriated but not used at the end of the fiscal year; House Bill 508, which concerns the powers of the Board of Examiners on Optometry; and the bill to raise the fees charged at Yankton State Hospital.

The Committee considered the bill to be introduced on the charges at Redfield State Hospital, and read a letter from Dr. E. H. Heinrichs on the bill. Dr. Sweeny moved that the Committee recommend to the Council that Mr. Erickson and Mr. Foster be allowed to use their own judgment in supporting or not supporting the bill concerning the fees at Redfield. The Committee will render any needed assistance when the bill is acted upon in the Legislature. The motion was seconded by Dr. Tank and carried.

The Committee discussed the replies received from the District Medical Societies and members of the Board of Medical Examiners relative to the establishment of a Medical Disciplinary Board. Dr. Tank moved that the Committee recommend to the Council that if any changes are necessary to improve medical discipline, those changes be made in the Medical Practice Act and assigned to the Board of Medical Examiners. The motion was seconded by Dr. Sweeny and carried.

Mr. Foster read a letter from Karl Goldsmith concerning the term of the Industrial Commissioner in this State. Dr. Sweeny moved that the Committee recommend to the Council that in view of the legal advice received, no legislation be introduced and that the executive office take steps to promote closer liaison with the Industrial Commissioner's office, suggesting the use of the Relative Value Study in their deliberations. The motion was seconded by Dr. Tank and carried.

Mr. Foster reported on the status of the privileged communication amendment proposed by the Bar Association. It will be introduced at the 1965 session of the legislature and the State Medical Association can re-affirm their endorsement at that time.

The Committee considered the matter of indigent cardiac adult patients which was referred to it by the Council. Dr. Sweeny moved that the Committee recommend to the Council that no legislation concerning this matter be introduced, but that physicians in the State be informed of the already existing sources of funds, namely the Rehabilitation Department. The motion was seconded by Dr. Tank and carried.

Mr. Foster discussed a change that had been suggested for the wording of the Medical Corporation Act. No action was taken by the Committee.

The Committee discussed the form which is used at insanity hearings in South Dakota. It has been suggested that the form should be revised. The Committee felt that they should ask for help from the psychiatrists in the State and also an attorney, or attorneys, to determine if the problem is really serious enough to warrant legislation. The Committee asked the executive office to check with Dr. Behan at Yankton State Hospital and get his opinion, and also obtain copies of the form used for the members of the Committee.

The Committee read a letter from Dr. Munson concerning the bill to legalize therapeutic abortions, if it is introduced. The Committee wishes to advise the Council that if such a bill is introduced, it will be studied carefully before any endorsement or non-endorsement is given.

The Committee considered Senate Bill 9, which lowers the blood alcohol level from .15% to .10% in the implied consent law for driving while intoxicated. The Committee suggests to the Council that if this bill is heard in Committee a pathologist be asked to appear and give any pertinent information on the difference between .15% and .10% blood alcohol.

The meeting adjourned at 6:00 P.M.

MINUTES OF THE COUNCIL MEETING

January 19, 1964

Sheraton Cataract Hotel
Sioux Falls, South Dakota

The meeting was called to order at 12:30 P.M. by Dr. E. J. Perry, Chairman of the Council. Present for roll call were Drs. R. H. Hayes, J. P. Steele, A. P. Reding, Magni Davidson, Paul Hohm, R. R. Giebink, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, F. D. Leigh, P. P. Brogdon, E. T. Lietzke, T. H. Sattler, J. T. Elston, E. P. Sweet, H. E. Lowe.

Dr. Tank moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they have been published in the **South Dakota Journal of Medicine and Pharmacy.** The motion was seconded by Dr. Hohm and carried.

The report of the Fee Advisory Committee was discussed. Dr. Steele moved that the Council adopt Paragraph 2 of the report, concerning anesthesia fees, as accepted by the Blue Shield Board of Directors. The motion was seconded by Dr. Hayes and carried. The recommendations accepted are as follows:

"That an Anesthesiology Section be added to the Relative Value Study and that the means of computing anesthesia relative values be on the basis of 20% of the surgical procedure performed, with a minimum of four units; that the

Fee Advisory Committee also recommends that a formula be adopted for unusual cases to be described 'by report' of four units for the first half hour, three units for the second half hour, and one unit for each additional quarter hour thereafter, or portion thereof."

Dr. Davidson moved that the Council adopt Paragraph 4 of the report concerning relative values for refractions and services rendered by opticians. The motion was seconded by Dr. Hohm and carried. The motion covers the following portion of the report:

"That a relative value of four units be given to all refractions in the Study and that the Committee recommend to the Welfare Department that payment for optical supplies and services connected with their dispensing be paid directly to the dispensers of the services."

Dr. Stransky then presented the report of the Medical Economics Committee regarding the Loss-of-Time programs endorsed by the State Medical Association.

SPECIAL REPORT OF MEDICAL ECONOMICS COMMITTEE TO THE COUNCIL

At the June 10, 1963 meeting of the Council, the Medical Economics Committee was charged with the responsibility of studying and reviewing the loss-of-time insurance programs currently endorsed by the State Association. The committee was directed to study the programs in depth, to analyze both long and short range aspects of the programs, and to report its findings to the Council in January, 1964.

Prior to any committee meeting, all committee members were given background material relating to each of the two insurance companies currently writing loss-of-time insurance for our association. This material included the data submitted to the Council by the companies as well as additional material obtained following correspondence with each group. In addition to these materials, committee members received copies of a detailed analysis of both companies presented by the AMA Chicago office.

Committee meetings were held on November 22 and December 11, 1963. All committee members were present at both meetings. Mr. John Foster was present at the December 11 meeting of the Committee.

At the first committee meeting, previously obtained material was analyzed in detail by the Committee. All phases of the problem were explored. Some of the major factors considered were these: (1) the advisability and desirability of an association of our size having more than one approved group program; (2) the relative merits of group franchise and master-policy certificate type insurance mechanisms; (3) the relative strength of each of the two insurance companies involved; (4) the experience in group loss-of-time business of each of the two companies involved.

As a result of the initial meeting of the Committee, a series of questions were presented to Harold Diers and Company. In response to this inquiry, Harold Diers and Company provided the Committee with figures for total claims, total premiums, and loss ratio for the years 1957, 58, 59, 60, and 62. The company also agreed to supply these figures to the Committee annually. The company further agreed to have the Committee act as arbitrator on any disputed claim.

The Committee makes the following recommendations to the Council:

1. the SDSMA should continue its approval of the Harold Diers & Company group loss-of-time program.
2. further efforts to form a second group through the Combined Insurance Company of America should be discontinued.
3. for the foreseeable future, only one group loss-of-time program should be given approval by the State Association.
4. the SDSMA should make every effort to cooperate with and promote the group loss-of-time program currently written by Harold Diers & Company.
5. members of the State Association should be advised in detail of the above actions; members should be further advised that if they currently have coverage with Combined Insurance Company of America that they may obtain similar coverage from Harold Diers & Company without evidence of insurability.

John J. Stransky, M.D., Chairman
Carroll J. Clark, M.D.
Donald L. Scheller, M.D.

Dr. Stransky moved the adoption of the report. The motion was seconded by Dr. Elston and carried.

Mr. Foster reported on the status of the tax exemption for the Association headquarters building. No action was taken.

The Council then discussed actions taken by the Fourth and Ninth District Medical Societies regarding the activities of the State Department of Health. Dr. Steele moved that the Council reiterate its stand against the use of Federal funds for the promotion of immunization programs in the State of South Dakota in line with the Council's previous decision. The motion was seconded by Dr. Davidson and carried.

Dr. Elston read a resolution from the Black Hills District Medical Society and one from the South Dakota Society of Pathology concerning this matter as follows.

WHEREAS: The State Health Department has inaugurated a statewide vaccination program despite the opposition of the Council of the SDSMA, and in apparent disregard by the State Health Officer to a prior agreement to drop the program if it could not be approved by the Council; and

WHEREAS: The prenatal letter service of the State Health Department is an unnecessary imposition of a governmental agency between the physician and patient, and is of questionable value in content; and

WHEREAS: The entry of the State Health Department into a PKU screening program is an unnecessary duplication of an adequate testing program currently available; and

WHEREAS: There appears to be a serious lack of liaison between the State Department of Health and the Council of the SDSMA:

BE IT RESOLVED: That the members of the Black Hills District Medical Society thoroughly disagree with the efforts and motives of the State Department of Health in the above programs and

Hereby instruct our Councilor to prevent the extension and continuation of such programs, and to review the reasons why such programs were developed.

BE IT FURTHER RESOLVED: That the Council of the SDSMA request the attendance of the State Health Officer at its meetings, and reach a harmonious solution to the above problems.

Sincerely,
H. L. Frost, M.D.
Secretary

RESOLUTION OF THE SOUTH DAKOTA SOCIETY OF PATHOLOGISTS

January 18, 1964

WHEREAS: The primary function of the State Health Laboratory is to offer diagnostic laboratory services to the physicians of the State for the purpose of identification and control of communicable diseases which concern and affect the public health, and

WHEREAS: The State Health Laboratory has concerned itself with the establishing of test services which do not concern the public health, i.e.: Rh antibody testing, blood PKU testing, tests for pregnancy, and

WHEREAS: The State Health Laboratory has continued to develop and offer, through letters of solicitation, services such as rapid identification of streptococcal disease which are widely available, more accessible and results more rapidly obtainable at the hospital and private laboratories throughout the State, and

WHEREAS: Adequate services for biologic and serologic testing in diagnostic problem cases of venereal disease and various viral diseases, including rabies detection, have not been fully developed and have been difficult and cumbersome to obtain, and

WHEREAS: In the opinion of this body, the State Health Laboratory has not concerned itself completely and limited its function to its defined purpose but continually and progressively extended its function beyond the scope and intent of its defined function,

BE IT THEREFORE RESOLVED: That the Council of the South Dakota State Medical Association be advised of this problem and that, through the Liaison Committee to the State Health Department, or whatever means necessary, action be taken to assure that the State Health Laboratory disengage itself from matters not concerning the public health and that it develop adequate services within the scope of its original definition and purpose.

Dr. Elston moved the adoption of the resolution from the Black Hills District Medical Society and the resolution from the Pathology Society. The motion was seconded by Dr. Brogdon and carried. Dr. Steele asked the chairman of the Council to draft a letter to the State Health Officer expressing the feelings of the Council on this matter and include a copy of the two resolutions. Dr. Steele moved that the resolution from the Pathology Society be referred to the Committee on Public Health for implementation, outlining the recommendations for change and improvement in the State Health Department; that the Committee study the problem and report back to the Council at the June meeting; that Dr. J. T. Elston meet with the Committee on Public Health and assist them in their deliberations. The motion was seconded by Dr. Davidson and carried.

A letter received from the State Nurses Association was read and discussed. Dr. Steele moved that the matter be tabled. The motion was seconded by Dr. Hohm and carried.

Dr. Elston discussed the matter of courtesy discounts given by physicians and hospitals in the State. After discussion, Dr. Brogdon moved to table the matter. The motion was seconded by Dr. Steele and carried.

Mr. Foster explained the Kathryn Kuehn Memorial Fund which has been offered to the Association and requested Council approval to accept and administer the funds. Dr. Steele moved that the Association accept the offer; that the proper type of publicity be given to it, subject to the wishes of the donor; and that the South Dakota State Medical Association draw up a set of criteria for accepting future funds of this nature and present it to the Council at a future meeting. The motion was seconded by Dr. Sattler and carried.

The report of the Budget and Audit Committee was presented to the Council.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION PROPOSED BUDGET 1964-1965

INCOME

State Dues	$43,000.00
Annual Meeting	9,500.00
Interest	400.00
Miscellaneous	500.00
Salary reimbursement	400.00
Car reimbursement	690.00
Refunds	500.00
Kathryn Kuehn Fund	500.00
	$55,490.00

EXPENSES	(Proposed)	(Previous Yr.)
Executive Sec.—Salary	$ 4,800.00	$ 7,500.00
Salary—Other	10,560.00	7,300.00
Social Security	400.00	420.00
Legal and Audit	650.00	700.00
Telephone & Telegraph	1,500.00	1,500.00
Office Supplies & Equip.	2,400.00	2,725.00
Dues and Subscriptions	1,500.00	1,200.00
Officers Travel	2,200.00	2,200.00
Annual Meeting	8,000.00	5,000.00
Public Relations	4,000.00	4,000.00
Rent	2,400.00	2,400.00
Miscellaneous	400.00	500.00
Unemployment taxes		40.00
Postage	1,500.00	1,600.00
Legislative Expense	2,400.00	1,850.00
Benevolent Fund	400.00	400.00
Medical School Endowment	200.00	200.00
Ladies Auxiliary	1,000.00	1,000.00
Kathryn Kuehn Fund	500.00	
Car Expenses	1,800.00	860.00
Staff Travel	4,000.00	4,500.00
Clinical Pathology	1,000.00	1,000.00
Reserve	3,880.00	1,740.00
	$55,490.00	$48,835.00

JOURNAL—INCOME

Advertising	$20,000.00
Subscriptions	1,200.00
Miscellaneous	750.00
Refunds	100.00
	$22,050.00

JOURNAL—EXPENSES

	(Proposed)	(Previous Yr.)
Salary, Editors	$ 1,440.00	$ 1,440.00
Legal and Audit	50.00	50.00
Salary, Staff	120.00	
Social Security	6.00	
Rent	900.00	900.00
Salary, Business Manager		3,600.00
Telephone and Telegraph	175.00	175.00
Office Supplies	17,000.00	17,842.00
Travel Expense	350.00	350.00
Balance to Surplus	809.00	13.00
Balance due Midwest-Beach 1963-1964	1,000.00	700.00
Postage	200.00	250.00
	$22,050.00	$25,350.00

GROUP LIFE INSURANCE—INCOME

Premiums	$30,000.00

EXPENSES

Payments to Ins. Co.	$29,100.00
Postage	50.00
Legal & Audit	50.00
Supplies	50.00
Balance to Surplus	750.00
	$30,000.00

BUILDING FUND—INCOME

Blue Shield Rent	$ 4,800.00
Association Rent	2,400.00
Journal Rent	900.00
Board of Examiners Rent	300.00
Nurses Association Rent	900.00
OAA Rent	2,250.00
	$11,550.00

EXPENSES

Janitor and Repair	$ 1,400.00
Utilities	1,600.00
Interest	2,600.00
Repayment of Loans	2,450.00
Taxes & Insurance	2,000.00
Legal and Audit	1,500.00
	$11,550.00

Dr. Reding moved the adoption of the proposed budget. The motion was seconded by Dr. Steele and carried.

Mr. Foster read a letter from the Rehabilitation Department requesting approval of a suggested schedule for payment of medical services for that Department.

Code	Nomenclature	Units	Fee
001	Office call, first visit, new patient routine history and necessary examination. (Attached General Medical Examination Form to be used)	2	$10.00
8675	Blood Serology Test (Kahn, VDRL)	.6	3.00
8930	Urinalysis (Routine Chemical)	.2	1.00
8931	Urinalysis (Quantitative Sugar)	.2	1.00
	Total Cost of General Medical Report		$15.00
9036	**Written Report Short Form** (Attached General Medical Examination Form to be used) (Information from records only, no exam.)	1	5.00
	Narrative — (Information from records only, no exam.)	2	10.00

When clients are under the care of a specialist and the General Medical Examination Record is completed by the specialist, payment by our agency will also be at the above given rate.

Dr. Hohm moved that the Council accept the proposal of the Rehabilitation Department for payment of medical services. The motion was seconded by Dr. Tank and carried.

The Council then considered the recommendations of the Committee on Legislation.

Recommendation #1 The Committee on Legislation recommends to the Council that the Association go on record as supporting the bill introduced by the American Legion concerning child beatings. Dr. Steele moved that the Council adopt this portion of the report. The motion was seconded by Dr. Tank and carried.

Recommendation #2 The Committee recommends to the Council that Mr. Erickson and Mr. Foster be allowed to use their own judgment in supporting, not supporting, or ignoring the bill to raise charges at Redfield State Hospital. The Committee will render any needed assistance in determining our position when the final bill is available. Dr. Sattler moved the adoption of this portion of the report. The motion was seconded by Dr. Steele and carried.

Recommendation #3 The Committee recommends to the Council that if any changes are necessary to improve medical discipline in this State, those changes be made in the Medical Practice Act and assigned to the Board of Medical and Osteopathic Examiners. Dr. Hohm moved the adoption of this portion of the report. Dr. Davidson seconded the motion and it was carried.

Recommendation #4 The Committee recommends to the Council that in view of the legal advice received by the Committee concerning the office of Industrial Commissioner that no legislation be introduced and that the executive office take steps to promote closer liaison with the Industrial Commissioner's office, suggesting the use of our Relative Value Study in their deliberations. Dr. Steele moved that Recommendation #4 be referred back to the Committee on Legislation and that steps for definite and expanded action be presented to the Council in June. The motion was seconded by Dr. Hohm and carried.

Recommendation #5 The Committee recommends to the Council that no legislation concerning the care of indigent adult cardiac patients be introduced, but that physicians in the State be informed of the already existing sources of funds, namely the Rehabilitation Department. Dr. Brogdon moved that this matter be referred to the Rehabilitation Committee for study and report at a future meeting of the Council. The motion was seconded by Dr. Hohm and carried.

Recommendation #6 The Committee advises the Council that if a bill concerning abortions is introduced at the legislature, the Committee will study it carefully before any endorsement or non-endorsement is given. Dr. Tank moved that this portion of the report be adopted. The motion was seconded by Dr. Hohm and carried.

Recommendation #7 The Committee reports to the Council that if a bill concerning the blood alcohol levels in the implied consent law is introduced and heard in Committee, a pathologist should be asked to appear and give any pertinent information on the subject. Dr. Steele moved that the Council accept this portion of the report. The motion was seconded by Dr. Leigh and carried.

The Council then considered a resolution presented by Dr. T. H. Willcockson concerning optometrist fees in the OAA program. Dr. Steele moved the adoption of the resolution and its transmission to the State Department of Welfare; that the secretary be allowed to make such changes as necessary in the wording as long as such changes do not change the meaning of the resolution. The motion was seconded by Dr. Davidson and carried. The resolution in its final form is as follows:

RESOLUTION CONCERNING OPTOMETRIC FEES FOR OAA RECIPIENTS

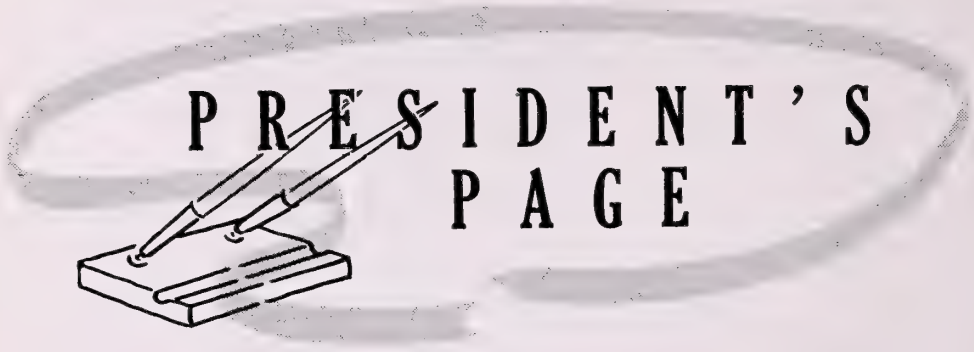
WHEREAS: The South Dakota Department of Public Welfare has entered into an agreement with the South Dakota Optometric Association for provision of refraction and eye glasses for Old Age Assistance recipients in an amount that exceeds that charged regular patients, and

WHEREAS: The doctors of medicine represented by the South Dakota State Medical Association have agreed to accept fees below their normal charges for recipients of welfare, and

WHEREAS: Funds for the OAA program are derived from tax monies which should treat all practitioners in a like manner, and

WHEREAS: Fee schedules should be based on the educational background and professional skills of the providers of service,

(Continued on Page 33)



Dear Fellow Members:

There has been something on my mind since Dick Erickson and I visited the Redfield Hospital for mentally retarded in December. I am certain that I was not as shocked as Mr. Erickson, because I had been exposed to such a Hospital before in my student days. Thank heavens, progress has been made and now we, in South Dakota, must avail ourselves of it.

In visiting with Howard Chinn, the Superintendent, and his Staff, we were convinced that some problems at Redfield are ones with which we doctors should be concerned and that there were others with which our lawmakers must be concerned. Prograss in eliminating the causes of mental retardation are being made and we doctors in South Dakota must be at the head of the movement in our State.

I am pleased to report that since our visit the Pediatrics Society has in process an arrangement with the State Hospital for a consulting Pediatrician. Our next step must be to assist with arrangements for a laboratory technician. Can you fancy yourself in a position of trying to care for a population of 1200 patients **without** a laboratory technician? I feel certain that we can arrange some sort of system and I know that our attempt to do so will be appreciated by this dedicated staff.

Did you know that one Orthopedic Surgeon visits the Hospital every year and does what he can? I think that our State Society, somehow, must contact our Specialty groups and arrange some specific programs.

About this same time I re-read an article in one of the trade journals **(WORLD-WIDE ABSTRACTS OF GENERAL MEDICINE)** by Dr. Allan C. Barnes, entitled "The Prevention of Congenital Defects." I heartily urge you to read this if you have not already done so. I am certain that you will find it thought provoking.

Howard Chinn, the Redfield Hospital Superintendent, asked me if I had seen an article reprinted in Smith, Klein & French's CONSULTANT on "When to Hospitalize the Retarded Child." I confessed that I had not and am sending it to you in this copy of your Journal.

The days to follow are going to produce knowledge about mental retardation. We doctors must be the leaders in this knowledge and not have the Federal Government's initiative in provision of funds for research in this field put us in the position of being followers. The recent experiment in Phenylketonuria Testing already showed that **we** must lead the lay public and not have them lead us — even in South Dakota.

Fraternally,

Robert H. Hayes, M.D.

When To Institutionalize The Retarded Child

Herman Yannet, M.D.
Southbury, Conn.

If you have ever faced the parents of a mentally retarded child who have just asked you whether or not he should be placed in an institution, you will agree that this is one of the most difficult questions you can be called upon to answer.

In the past, most physicians have answered it dogmatically. Some have recommended that all retarded children be institutionalized as soon as their condition is recognized; others have recommended that all retarded children be kept at home. Actually, a blanket recommendation of either kind is likely to be wrong. In this complicated situation, a sound recommendation can be made only on an individual basis — taking into consideration the child, his family situation and the community in which he lives.

A Guide to the Best Recommendation

In our culture, which expects everything to turn out well for children, a retarded child is a grave problem that can seriously disrupt the family and its position in the community. However, it may also have an opposite effect and bind the family together, mobilizing its strength to meet a common problem. Can we predict how a particular family will react? Which things make it possible for the child to remain at home and which make it unwise or clearly impossible?

We can never, of course, make a certain prediction. However, many things influence the way a mentally retarded child will affect a family and should be considered carefully before we make any recommendation about placement. For example, we should always consider how well the parents get along together, how well they get along with their children, and how well adjusted their children are; their financial situation; and their community's facilities for training and caring for such children. However, the most important consideration, the one which affects all the others, is the severity of retardation.

In our population, retardation ranges from the most profound, with IQ less than 10, up to levels that merge almost imperceptibly with the normal. Just as the range of retardation varies widely, so do the objectives and techniques of management. To discuss these objectives and techniques in detail, let me classify the retarded into three groups: (1) the high-grade, minimally retarded (also called the educable) with IQ's between 50 and 75; (2) the middle-grade, moderately retarded (or trainable) with IQ's between 25 and 50; and (3) the low-grade or severely retarded, with IQ's less than 25.

When to Commit the Educable Retarded

Fortunately, about 75% of all retarded children are minimally retarded (Group I). Most of them respond to training and, if the family and community situation is favorable, can be managed well at home and successfully integrated into the community. Institutionalization is required only . . .

- when the child has a serious behavior problem or personality disorder that makes community adjustment impossible or hazardous, and that has not responded to psychotherapeutic treatment. The intensive therapy available at an institution often permits such children to return to the community after a short commitment.
- when the home environment is unsatisfactory and a suitable foster home is unavailable. Sometimes the home environment can be improved (perhaps by a social worker) while the child is away, permitting him to return to his home eventually.
- when there are no community facilities to aid the family in managing the retarded child's educational, emotional and medical problems. This is probably the most common reason for institutionalization. Separation of retarded children from their families for this reason is a tragic result of failure of the community to meet its responsibility. Such communities usually plead financial reasons for their failure, in spite of the fact that institutionalization is the most expensive way to manage the mentally retarded.

The Trainable Retarded — Too Often Committed

The moderately retarded (Group II) account for an additional 20% of all the mentally retarded. Many of this group can be

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diagnosed as retarded at birth or during infancy; about half are mongoloids. Because the diagnosis can be established so early, parents of such children face the complicated decision about institutional placement at an especially difficult time. They are vulnerable at this time to the fairly common, though generally deplorable, recommendation for placement immediately after birth or soon thereafter.

Immediate placement may be the best answer in rare situations, but can only be condemned as a routine practice. It is rarely the easy and complete solution it seems to be; and, on the contrary, it can have severe psychological repercussions on the retarded child and on every member of his family. The too frequent practice of telling parents of a child who is abnormal at birth to "put him away immediately before you get attached to him so you can forget him more easily" is psychologically unsound advice for many reasons. Every mother has an important emotional investment in her child even before he is born; she cannot even consider forgetting him — much less send him away — without having painful guilt feelings.

Immediate placement is psychologically bad for the retarded child because it deprives him of the early mother-child relationship that is so important for the development of a healthy personality. This deprivation is potentially more damaging to the already handicapped retarded child than it would be for a normal child, and should be avoided even in children for whom eventual institutionalization is inevitable.

Finally, immediate placement can severely affect the retarded child's normal siblings. They will sense their parents' tension and guilt and try to explain the situation to themselves with all kinds of distorted fantasies. For example, they may expect abandonment as a punishment for misbehavior and become pathologically anxious. The normal children's "embarrassment" —if any — about having a retarded child in the family will probably be less destructive than knowing that one of them, for some unclear reason, has been put away somewhere and is never to be mentioned again.

Actually, parents' fears that a retarded child's presence in the home will have an unhealthy effect on their normal children are generally unwarranted. The opposite is probably more often true, with the normal children developing unusual generosity and strength of character. If the parents' attitude toward the retarded child is sensible, such a child can contribute much to his family, and be dearly loved, not only by his parents but also by his normal brothers and sisters.

The Community's Role in Management

Moderately retarded children are much more difficult to manage than the first group, and community programs for dealing with them are still experimental. However, it seems likely that these programs will eventually reduce the need for hospitalization, or shorten its duration when it is needed. Admittedly, this optimism is based on extensive observations of the progress of children in institutions with programs designed especially for this type of retardation. Whether such a program can be equally successful in a community setting remains to be seen.

A comprehensive program for the moderately retarded should at least include the following. **First,** day-care centers or specialized kindergartens. These are vitally important to such children as training for socialization and are especially important if these children are to enter special classes in the public schools. **Second,** special classes and facilities in the public schools. These should not be confused with classes for the minimally retarded whose educational requirements are quite different. Generally, the two kinds of classes cannot be combined. For older children, facilities should be provided for simple industrial training, socializing opportunities, and recreational opportunities. **Third,** sheltered workshops where the adults can use their limited industrial skills under close supervision.

What to Do About the Severely Retarded

The so-called low-grade group, with IQ's under 25, is fortunately the least common and makes up 5% or less of the total number of retarded children. They can frequently be recognized early, and usually have associated handicaps such as epilepsy and cerebral palsy which greatly complicate the problem of home care. Since the severity of retardation usually prevents a satisfying mother-child relationship, such a child can occasionally

upset the emotional life of the entire family. While many such children can be kept at home during infancy and childhood, continued home care is a problem few families can long endure and residential care is usually eventually inevitable. However, even when the indication for placement is clear, the final decision to separate such a child from his family is a very personal one and must be reserved for the parents. Of course, such parents need all the guidance you can give to help them make this decision to everyone's best interest, based on all available knowledge.

As a rule, the community has met its responsibility for care of the severely retarded by adding nursery-like sections to the state training schools. Because modern medical care has greatly increased the life span of the severely retarded, the number who now need long-term care greatly strain the available facilities. Their needs cannot be met by simple expansion of present facilities; the probable solution to this problem may be the establishment of many smaller independent nursery units near the larger population centers. These would be less expensive to operate and would have the important advantage of being more accessible to the parents. They would permit the parents' continued interest and participation in their child's care.

The Physician's Role

The problems involved in deciding whether or not to recommend institutionalization for retarded children have been discussed, and a guide to help make this decision briefly summarized. However, helping the parents of a retarded child decide on the need for institutional care is, of course, but one aspect of the physician's role in caring for the retarded. Before and probably after the decision, the parents need advice, support, understanding and direction to other people, agencies, and resources that can be of help to them and to their child; the physician should offer them such help in addition to any medical care they may require. Finally, and this cannot be overemphasized, all physicians have a continuing obligation to promote a climate of understanding and the best possible community facilities for the mentally retarded.

MINUTES—

(Continued from Page 29)

THEREFORE NOW BE IT RESOLVED: That the Council of the South Dakota State Medical Association request that the South Dakota Public Welfare Commission reconsider its agreement with the Optometric Association and negotiate fees that are reduced, rather than increased from their normal charges.

Respectfully submitted,
SOUTH DAKOTA STATE MEDICAL ASSOCIATION
Robert H. Hayes, M.D., President
E. J. Perry, M.D., Chairman of the Council

Dr. Steele moved that the Council approve the corporate resolution regarding the change of authorized signatures for the bank accounts of the Association. The motion was seconded by Dr. Elston and carried.

After discussion, Dr. Davidson moved that the Association increase its annual dues payment to the United States Chamber of Commerce from $50.00 to $100.00. The motion was seconded by Dr. Leigh and carried.

A letter from Dr. Illig of Pierre, concerning an optometrist was read. Dr. Steele moved that the Executive Committee be empowered to investigate the situation and take proper action. The motion was seconded by Dr. Leigh and carried.

The resignation of John C. Foster was accepted and approved by the Council. Dr. Steele moved that Mr. Richard C. Erickson be appointed to be the new Executive Secretary of the South Dakota State Medical Association. The motion was seconded by Dr. Hayes and carried unanimously. The appointment will be effective February 15, 1964. The meeting adjourned on motion at 4:30 P.M.





WE WOULD CALL IT PROGRESS

A total of nearly $8 billion was invested by 140 million Americans in health insurance premiums in 1962, according to the annual survey by the Social Security Administration. This represented more than one-third of America's total medical care budget of $22 billion in 1962.

While this budget total was up 5.8% over 1961, health insurance payments increased 13.4%, and direct payments for medical care rose only 2.2%. The proportion of the total medical care dollar covered by health insurance benefits has increased steadily from a level of 8.2% in 1948 to 31.1% in 1962.

Per capita payments for health insurance amounted to $41.17 in 1962, up $4.33 from the 1961 level of $36.84 per capita. Total medical care expenditures per capita rose $4.93, from $114.51 in 1961 to $119.44 in 1962.

Blue Cross and Blue Shield Plans accounted for 41.2% of the nearly $8 billion total premium income, while 52.4% was paid to insurance companies and 6.4% to "independent" plans. The Blue Cross-Blue Shield share of total health insurance income has remained relatively stable at about 41% ever since 1950.

Total benefit payments by all carriers amounted to $6.5 billion in 1962, or 86% of premium income. The 75 Blue Shield Plans paid out 88.8% of their total earned subscriptions in benefits during the same year. It is notable that while Blue Cross and Blue Shield "costs" or retentions have been decreasing (as a percentage of income) the cost ratio of the insurance companies, in aggregate, has been rising.

These figures suggest that the great challenge of the immediate future will be to improve the "quality" of Blue Cross and Blue Shield coverage, in terms of the proportion of total health care costs covered by the plans.

And we may find that creating better protection for those now covered by our Blue Cross and Blue Shield Plans will provide the key to a new surge in the enrollment of those not yet covered by these Plans.

AMERICAN HEART ASSOCIATION ON SMOKING

The American Heart Association has welcomed the recent report of the Surgeon-General's Advisory Committee on Smoking and Health as an important contribution to public understanding of the health hazards associated with cigarette smoking.

Dr. John J. Sampson, President, said that the report confirms the position taken by the American Heart Association and its affiliates last June when it called for discouragement of cigarette smoking as harmful to health.

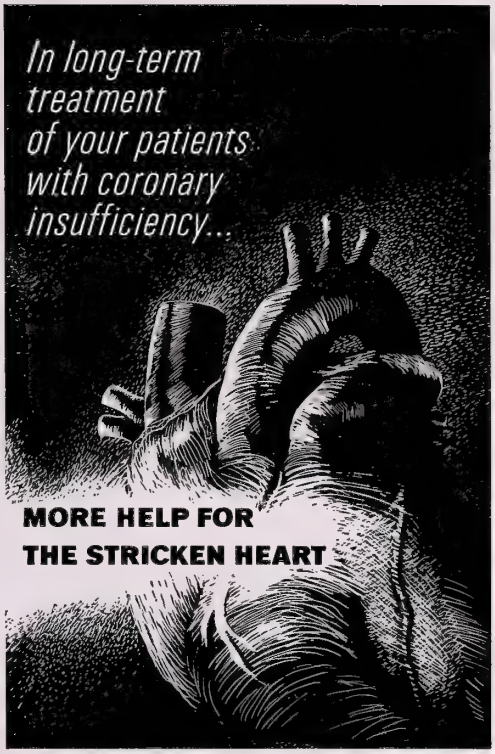
"The public," Dr. Sampson continued, "should be aware that the data accumulated thus far — and so comprehensively reviewed in the recent report — have a very important bearing on death and disability from diseases of the heart and blood vessels which represent the greatest health problem in the United States today."

"ASK YOUR HEART ASSOCIATION"

February was Heart Month. During that month the South Dakota Heart Association concentrated its program of fund-raising in order to carry out its purpose of "conducting research, education, and community service projects in the field of cardiovascular diseases," America's foremost health menace. 1,800,000 people die each year in the United States; 600,000 of heart disease; 500,000 of arteriosclerotic (atherosclerotic) heart disease. These statistics indicate the magnitude of the heart disease problem.

Nearly one-half of middle-aged men who die do so from coronary artery disease (atherosclerotic heart disease). Is this a preventable illness? Recent research indicates that there is a relationship between high blood pressure, obesity, serum cholesterol levels (and dietary fat and calories), and cigarette-smoking, and the development of atherosclerotic heart disease. Exact causal associations remain to be determined. With such a high proportion of us doomed to death from possible preventable atherosclerotic heart disease, the slogan "HELP YOUR HEART FUND, HELP YOUR HEART" seems to be directed at each of us.

The research program of the South Dakota Heart Association spent more than 200,000 dollars in the last six (6) years. It included



■ **PETN (pentaerythritol tetranitrate) to increase oxygen supply**

■ **plus meprobamate to decrease anxiety and tension**

Unlike phenobarbital, meprobamate is *not* cumulative and does *not* cause depression.

Side effects: Pentaerythritol tetranitrate may infrequently cause nausea and mild headache, usually transient. Slight drowsiness may occur with meprobamate and, rarely, allergic reactions. **Precautions:** Meprobamate may increase effects of excessive alcohol. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction. **Contraindications:** Like all nitrate-containing drugs, 'Miltrate' should be given with caution in glaucoma. *Complete product information available in the product package, and to physicians upon request.* **Dosage:** 1 to 2 tablets, *before meals* and at bedtime. Individualization required. **Supplied:** Bottles of 50 tablets.

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research sponsored by the American Heart Association, a full-time Heart Research Career Investigator at the University of South Dakota, and a graduate fellowship in heart research at the University of South Dakota. Since this is not clinical research, the results for each dollar spent are not immediately evident.

The South Dakota Heart Association sponsors an educational program, to increase public understanding of heart disease, through TV, radio, newspapers, magazines, speakers, films, literature, and exhibits. In addition, it attempts to provide information, pamphlets for patients, and teaching kits to and on request of physicians and nurses. Several Stroke Rehabilitation Conferences have been held (Mobridge, Watertown, Aberdeen, and Yankton) for education of physicians, nurses, and patients (and their families).

Educational programs showing people with cardiac defects how to adjust to their homes or jobs will be expanded. However, many professional and other people will be needed to activate this program in South Dakota. Oral Penicillin tablets are available at cost for the medically indigent to provide prophylactic protection against rheumatic fever.

GOOD MEDICAL DOCTOR Wanted in town of 1400. Prosperous community. New office building especially constructed for one or more doctors. Chamber of Commerce will assist. Three nearby towns without doctors. Opportunity unlimited. Contact D. S. Robinson, Paullina, Iowa.

Mr. Robert L. Lind, Professional Service Representative for Smith Kline & French Laboratories, is available to give non-commercial talks on three medical and health subjects before community groups in western South Dakota. Mr. Lind is prepared to speak on "Miracles in the Making," "The Silent Revolution" and "Prescription for Tomorrow." He resides at 2513 Arrow Street, Rapid City, and can be called at 348-0751.

The Yankton Throat Culture Program for detecting beta-hemolytic streptococcal throat infections is financed partially by the South Dakota Heart Association. Similar programs are urgently needed throughout the State of South Dakota.

The South Dakota Heart Association, with a small budget, is attempting to combat a major problem. It does not have sufficient money for directly financing patient care, since there are so many patients with heart disease desiring or needing financial assistance. However, the Executive Director of the South Dakota Heart Association, 216 Midland National Life Building, Watertown, South Dakota, may be able to direct the patient or physician to the proper facility or agency from which he may be able to obtain diagnostic, therapeutic, or financial help. We encourage any questions regarding heart disease. If we don't know the answer, we can find someone who can give you the answer.

"ASK YOUR HEART ASSOCIATION"

R. F. Thompson, M.D.
President
South Dakota Heart Association

NEW MEDIC-ALERT SYMBOL

At the annual meeting of the Medic Alert Foundation International's Board of Directors, on the advice of its National Medical Advisory Committee, it was voted to add the newly developed A.M.A. symbol for emergency medical identification to the face of the Medic Alert emblem. It was the unanimous opinion of the Board of Directors that an emblem bearing both the internationally-recognized Medic Alert symbol and the A.M.A. symbol would give further protection in emergency to the individual wearer. Such emblems will be available following March 1st of this year.

The Medic Alert Foundation has found that it would be impossible to substitute the A.M.A. symbol completely for the Medic Alert symbol inasmuch as there are 110,000 people using the Medic Alert symbol at the present time in the United States, and about 8,000 in other parts of the world.

New informational pamphlets with application for membership blanks bearing the combined symbols will be available at an early date.

MEDICAL LIBRARY BOOKSHELF



MEDICAL PERSONNEL IN THE PEACE CORPS

Dr. S. B. Penick of Washington, D.C., in a letter to the Editor of the **Journal of Medical Education** (v. 37, 1962; p. 1132) outlines a plan that could be used for organizing a program for the recruitment of medical personnel in the Peace Corps. He states: "It has seemed to me that young physicians, by the nature of their work, are in the strongest possible position to perform services at a highly personal level for the people of underdeveloped nations." According to Dr. Penick there is no effective or well organized program for recruitment at the present time. He proposes:

1. That the leading medical schools of this country share in this program by forming units for service overseas in underdeveloped countries consisting of one or two senior staff physicians donating their services for one year. Perhaps the medical schools would continue their salaries for such a program.
2. That each unit be composed of the necessary number of senior staff members and residents to staff a hospital, which would be adopted by a specific teaching center, with representation of medical and surgical specialties based on specific needs.
3. Residents would serve for two years at Peace Corps wages.
4. A short intensive training period with major emphasis on language would be provided by the Peace Corps for members of units prior to active service.
5. Requests would be made of pharmaceutical companies to provide drugs and equipment in support of these units. One pharmaceutical house might undertake to support one unit.

With senior supervision available the medical volunteer would feel that he is getting training while serving. Another advantage would be the collection of data on diseases and problems rarely seen in this country which, upon examination at a future time by the coordinating teams, could lead to valuable research findings.

In conclusion Dr. Penick states: "The unit system would provide continuity and cohesiveness to the Medical Peace Corps. With pharmaceutical industry support the cost would be minimal."

Also in the **Journal of Medical Education** v. 37, 1962; p. 390 is a communication contributed to the Medical Education Forum by Robert Sargent Shriver, Head of the Peace Corps. This is entitled **Peace Corps: a Challenge to Physicians.**

In this article Mr. Shriver lists the clinical cases and health conditions which the Peace Corps Physician Volunteers have an oppor-

reduce or obviate the need for transfusions and their attendant dangers

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tunity to observe and deal with firsthand which are infrequently encountered in North America. These include malaria; trypanosomiasis; cholera; schistomiasis; yellow fever; Chaga's disease; amoebiasis, leprosy and small pox.

In his opinion the experiences gained would broaden medical horizons; increase knowledge of other peoples' social and economic problems; help to develop skills in the broad field of international health, and could lead to a variety of careers. There would also be the personal satisfaction of assisting people who face medical problems much greater than those in our own country.

The House Physician Reporter published by Lederle Laboratories, v. 3, January 1964 gives an account of one Peace Corps Volunteer, Dr. Murray De Armond of Indianapolis who was the first M.D. to live in the fishing village of Kuala Rompin in Malaysia in the state of Pahang on the shores of the South China Sea. At 28 he is the head of a new clinic in a new nation. Dr. De Armond is the only doctor within a 50 mile radius and is responsible for a rural population of 50,000. Since he has been there the staff has been expanded to include a dispenser, a hospital assistant, more nursing personnel, a midwife, a dentist and a public health team; all Malaysians.

Such diseases as malaria, leprosy, amoebiasis and trypanosomiasis are ecountered. In addition to outpatient care Dr. De Armond works with the people of the community on such projects as clean-up campaigns, school health programs, latrine development and environmental sanitation. He also visits clinics in his district run by midwives and "assistants," traveling overland by jeep and up river and off shore by boat.

Like all volunteers he gets a living allowance sufficient for housing, food, and incidentals with a readjustment allowance of about $1800 on completion of a two year tour of service. In spite of some discouragements and long hours he feels that the work is eminently worthwhile and exciting.

Esther Howard
Medical Librarian

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MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverb

When Saints asked Jesus how to pray He answered, "Pray thou in this way."

He used no flowery language, Nay — "Pray in this manner," he did say,

"Our Father, Which art in Heaven."

Now I'm a father; mortal, true, But when I know what I should do

For child of mine, beyond his due, I'll trust that God to see me thru, —

"Our Father, Which art in Heaven."

NEWS NOTES

Any general practitioner desiring to go into psychiatry should be informed that the age limit has been extended for a residency at the VA Hospital in St. Louis. Any interested individual should write or phone Julius Ehik, M.D. at the VA Hospital Center in St. Louis, Missouri.

Floyd U. Sebring, M.D., recently opened a new office in Vermillion, South Dakota. Dr. Sebring practiced medicine in Martin, South Dakota, for 15 years before moving to Vermillion a year and a half ago.

* * *

The next scheduled examination (Part II), oral and clinical, for the American Board of Obstetrics and Gynecology, will be conducted for all candidates at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board, April 27-May 2, 1964. Formal notice of the time of examination will be sent to each candidate in advance of the examination dates.

* * *

Funeral services were held recently in Richland, Washington, for **John Francis Quinn, M.D.** Dr. Quinn was born in Springfield, South Dakota, September 22, 1880. He practiced medicine for many years in South Dakota, some of which were spent in Waubay. He was a former member of the American Medical Association and the South Dakota State Medical Association. Among his survivors is his brother, Dr. Robert J. Quinn of Sioux Falls.

* * *

The Annual West-North-central Conference on Diseases Common to Animals and Man will be held September 11 and 12, 1964 on the campus of the University of Nebraska College of Medicine, Omaha, Nebr. Information regarding the conference may be obtained from Dr. Norman G. Miller, Dept. of Medical Microbiology, Univ. of Nebraska College of Medicine, 42nd and Dewey Ave., Omaha 5, Nebraska.

The Section of Ophthalmology of the Southern Medical Association announced that the next annual meeting will be held in Memphis, Tennessee, November 16-19, 1964. Papers are being accepted up to May 15, 1964 for presentation at the next annual meeting. For further information, please communicate with the Secretary, Dr. George S. Ellis, 812 Maison Blanche Bldg., New Orleans, Louisiana.

* * *

Dr. George L. Wilkinson, who formerly practiced in South Dakota, passed away in Welcome, Minnesota, in August, 1963.

* * *

J. L. Vose, M.D., discussed "The Anemias" at the February 13th meeting of the Third District Medical Society.

* * *

W. HOHM, M.D. RETURNS TO HURON

Wilbert Hohm, M.D., a former Huron resident, has become associated with the Tschetter-Hohm Clinic in Huron.

Dr. Hohm has been serving his residency in internal medicine and proctology at the Mayo Clinic in Rochester, Minnesota.

* * *

DR. WM. TAYLOR RECEIVES AWARD

William Taylor, M.D., of Aberdeen was presented with an award as the outstanding physician of the year for his efforts to assist the handicapped. The award was presented by Governor Archie Gubbrud during a joint session of the state legislature. Dr. Taylor is a specialist in internal medicine at the Aberdeen Medical Center.

* * *

S. D. JOURNAL PRAISED BY PHARMACEUTICAL COMPANY PRESIDENT

In a speech in Chicago, in October, Raymond Hetterick, president of Lakeside Laboratories, speaking on "Why Some State Journals Are Preferred Over Others" said the following: "I will discuss quality first because I believe it to be a primary consideration. On quality alone, all of the thirty-four journals in the State group measure up well because without exception, the State journals are attractive. Their formats and reproduction are very good and their editorial content invites readership . . . As I mentioned earlier, I feel that all State journals rate well on quality and it may appear unfair to single out any one for preference but the people in our office have noted that **South Dakota** and **Iowa** routinely and consistently seem to put out a good publication — I am sure that others also deserve mention."

* * *

FREE BAND-AID DISPENSER

A free Band-Aid Bandage dispenser is being offered by Johnson & Johnson. The unit is transparent polystyrene with five compartments to accommodate the most widely used Band-Aid Bandage sizes. It has a capacity of over 300 bandages, and is easily refilled.

Known as Professional Offer S-5386, it contains 6 boxes of Band-Aid Bandages. Supplies are limited, so order early.

* * *

MEMO FROM SANITARY ENGINEERING

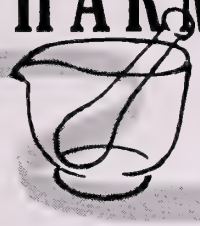
A memorandum from the Division of Sanitary Engineering, Pierre, advises that an EMERGENCY information service is now available through the Poison Control Branch, Division of Accident Prevention, U. S. Public Health Service, Washington, D. C. to quickly determine the effects of a substance accidentally added to a public water supply.

Accidental contamination of private water supplies through careless use of new substances used as fertilizers, pesticides, weedicides, etc. has been called to the attention of many in South Dakota.

There are two limitations to the service being established in Washington. The first is that only emergency type calls will be answered. Requests for advice on long-term type problems will be handled by correspondence.

Second, the properties of some chemical agents may not be on record. In this case, the Public Health Service will endeavor to put the inquirer in touch with the manufacturer to determine what the toxic properties are.

PHARMACEUTICAL SECTION



GUILFORD C. GROSS, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



PROGRESS ON INVESTIGATIONAL DRUGS*

by

Winton B. Rankin**

When Dr. Sheeley invited us to participate in this panel discussion we inquired about the purpose of the meeting. **Some** of the discussions that we have heard in recent weeks are in effect a continuation of the debate before Congressional committees last year as to whether the Kefauver-Harris Drug Amendments should be enacted. We doubt that much is to be gained by having the FDA participate at this time in further discussions of such nature. The law was enacted and the need today is for all of us to give our sincere thoughts and earnest efforts to putting it into effect smoothly. It may be that after it has been tried for a while some of you will find that there are provisions with which you are not satisfied. It may be that we will find provisions that we believe should be amended. Then will be the time to talk about possible amendments. But now is the time to give this new law a fair trial and to do our best to make it a workable instrument.

Dr. Sheeley indicated that it was not the purpose of this meeting to provide a forum for continuation of the 1962 debate. And so we were most happy to accept the invitation to discuss some of the pressing questions that have arisen during the first year of administration of the new law.

In particular, I would like to consider the investigational drug procedures that have been set forth in regulations first proposed under the old law but put into effect under the new amendments.

The law and regulations essentially prescribe principles which have been recognized by the medical profession for many years, governing experimentation on man. Generally speaking, the requirements are that before a new drug may be shipped for clinical testing the Government must be notified of the facts which convince the sponsor of the test that he is justified in trying a product on man. Among other things:

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*Presented at the Eastern Regional Pharmaceutical Manufacturers Association Meeting, New York, N. Y., December 10, 1963.

**Assistant Commissioner, Food and Drug Administration, U. S. Department of Health, Education and Welfare.

1. There must be an indication that adequate animal, chemical and other appropriate tests have been performed on the drug.
2. An indication of proper manufacturing controls in production.
3. A showing that a sound plan of investigation has been prepared and made available to the investigators together with other information which will enable them to reach their own conclusions as to the desirability of conducting the tests and the precautions which they should observe in conducting it.
4. The notice to the Government should contain a showing that the sponsor has determined that the investigators selected to participate in the experiment are, in fact, qualified for their participation.
5. There is a requirement that investigators shall certify that they will obtain the consent of the subjects of the experiment or their representatives except where this is deemed by the investigators not to be feasible or not in the best interest of the patient.

This so-called patient consent requirement is perhaps the most misunderstood of any. There is a widespread belief among investigators that it is something new which has been added by the Kefauver-Harris Amendments — an exacting and perhaps frightening provision that in some way is going to make it much more difficult if not impossible to conduct clinical tests on new drugs in the future. But this is not the case at all. For the doctor to tell a patient that he would like to try a new drug and explain the proposed treatment does not add anything to the requirements under which physicians have operated for a great many years. Under common law the physician is not entitled to do anything to his patient or administer any drug, whether or not it is an approved drug, without obtaining the informed consent of the patient. Basically the same requirement has been set forth in various codes of medical ethics over a period of many years. There is nothing new in the patient consent requirement. If anything, it is less restrictive than the common law in that it gives the physician the opportunity, at least under the Federal requirement, to decide when it is not feasible or not in the best interest of the patient to attempt to gain his consent.

It may be worthwhile to review briefly some of the other misconceptions about the investigational drug procedure. One is a big feeling of uneasiness that in some way the Government under the new procedure is going to try to control all research in the United States, to dictate to clinicians what they should test and how they should test it. This also is not correct. Neither the law nor the regulations say, and we do not intend to try to make them say, that the Government shall dictate the drug to be tested, the plan to be followed in testing or the investigators who will do the testing.

The sponsor will arrive at his own decision on these matters. It is quite true that he advises the Government of his decisions before the test is undertaken. And it is also true that if there is evidence of unreasonable hazard or a lack of reasonable testing to determine the probability of hazard the Government is obligated to block interstate shipment of the investigational drug. But this safeguard is a far cry from the domination of research.

It is not even the function of the Government, as we visualize the requirements, to forbid the performance of a clinical test that is not particularly well designed scientifically, provided adequate pre-clinical examination is performed to reveal the possible hazards, investigators are properly advised, there are not obvious hazards which can and should be avoided, and the subjects of the experiment understand that they are undergoing an experimental procedure which necessarily may be understood to entail greater risks than an accepted one. Of course, when our scientists review a claim for exemption and offer comment to the sponsor, they will, upon occasion, offer suggestions as to modifications they believe would improve the experiment. Such suggestions have been requested by a number of firms. These are advisory and should not be construed as an indication that we intend to cancel an exemption merely because the test it covers is not the best one that could be devised.

Now whether the results of a poorly conceived study will serve to establish the safety and effectiveness of the drug to the point that that product can later be approved for

general marketing is an entirely different matter. Our experts may well have to say to a manufacturer who relies upon inadequate experimentation: "We are sorry you do not have proof of safety and effectiveness which will justify commercialization of your new product. You need more and better investigations." That is not a new situation. It has prevailed for over 25 years with respect to safety studies on all new drugs, and for quite a number of years with respect to efficacy studies on certifiable drugs. But, the point is that the law does not establish FDA as the dictator of drug research in this country.

A few researchers have been disturbed by the requirement that they report the results of their studies to the sponsor of an investigation. This is a basic part of the investigational process. If the results of an experiment are not disclosed then it contributes nothing to the development of a new drug and virtually nothing to science generally.

We do not see any prospect of relieving those who test new drugs from the reasonable requirement that the results be reported to the sponsor and then to public authority. Insofar as we know, only a small minority of the clinical investigators are disturbed about this provision.

There has been a tremendous amount of progress in the past year, and it is continuing at a steadily increasing rate. One of the noteworthy developments is the establishment of a practical system for handling and retrieving the mass of data that comes to FDA with regard to investigational drugs. At present five classes of basic information are recorded into punch cards. These include information about:

Chemical structure and formulation
Drug manufacturer
Drug names
Pharmacology of the drug
Route of administration and dosage

Thus when our medical officers are considering a claim for exemption they request a mechanical search of the recorded data to determine whether the same chemical — or a similar one — has been tested before and if so with what results. When this discloses the possibility of significant and serious ill effects not previously recognized by the sponsor of the new test, we will immediately advise him of the untoward results so that appropriate steps may be taken to avoid subjecting additional people to the same risk. The existence of such a reporting system should prove of great value not only to the subjects of clinical trials but also to the firms that conduct them. Already the new system has paid dividends. It will be expanded to include information from other sources as soon as possible.

The FDA's Advisory Committee on Investigational Drugs under the chairmanship of Dr. Walter Modell has given invaluable assistance since it was formed. Some seem to feel less restraint in discussing their problems with the advisory committee members than in discussing them with the Government. So, we get a truer picture of the impact of the new procedure through the eyes of the advisory committee. Additionally, the committee members, who are distinguished investigators in their own right, bring their own skills and abilities to bear in suggesting solutions to troublesome problems.

Only recently the advisory committee has suggested methods of easing the amount of paper work required to make certain placebos and chemicals, being used as research tools, available to the scientific and medical community. We are in the process now of translating the committee's recommendations into proposed changes in the investigational drug regulations.

Other problems are under active study and discussion between the FDA and the advisory committee and unquestionably in the forthcoming months there will be revised procedures and perhaps additional revisions in the regulations, all designed to encourage the research effort without any sacrifice of consumer protection. We are greatly indebted to the members of the advisory committee for the major contributions they are making at considerable sacrifice. In our opinion the entire scientific community likewise owes these experts a sincere vote of thanks.

The drug industry is helping significantly in implementing the new law and regulations. I was greatly impressed a few weeks ago by the very fine job that the Medical Services staff of Sandoz Pharmaceuticals had

done in preparing a claim for exemption for an investigational drug. The information in the claim was set forth in a clear, concise manner which greatly facilitated our handling of the submission. I am advised that other claims by Sandoz have been prepared in a similar manner. I know also that Merck goes to great lengths to prepare its new drug applications so that they will present the necessary information in a most usable form. This again greatly facilitates our handling of the documents and expedites their processing to the advantage of all who submit new drug material for review. I am advised that, among others, A. H. Robins and Winthrop have presented excellent documents to us.

Certainly there are many other firms who likewise have gone out of their way to see that their submissions to the FDA are well-prepared scientific documents.

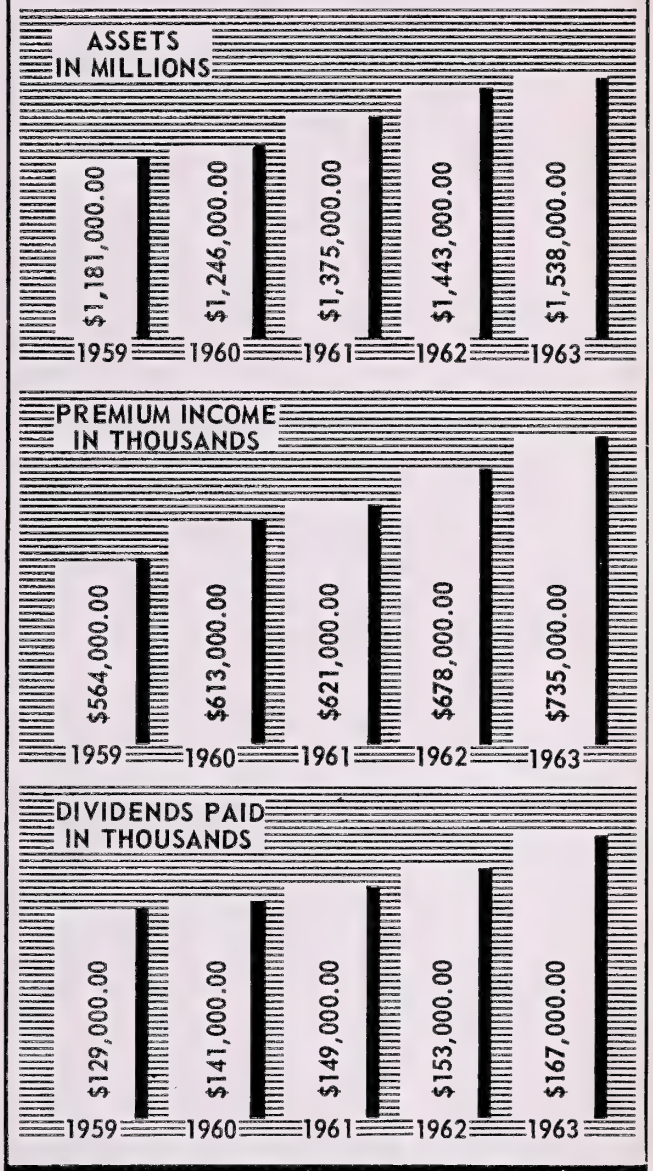
The law requires you who sponsor clinical tests to assure yourselves that the investigations are properly planned and conducted.

Industry can also be of assistance in explaining these requirements to the investigator in a fair and truthful manner. The investigator's opinion of the law and of the Government is greatly influenced by what he hears from the drug industry.

The new requirements will save lives and raise the quality of medical research. When considered objectively, they are desirable. A number of manufacturers have told us that the investigational procedures are workable — that they can live with them. Are you willing to make the same statements to clinical investigators?

We in FDA are bringing our best abilities to the administration of the investigational drug procedures. We intend to perform the job sincerely, honestly and with complete regard for the needs not only of the consumer public but also of the industry and of the professions. It has been our observation that where Government and all concerned with a regulatory statute approach a new law in this spirit it is possible to get it into operation smoothly and effectively. We will appreciate your continued cooperation during this transition period.

CONSISTENT GROWTH



WHERE YOU'RE A NAME AND NOT A NUMBER

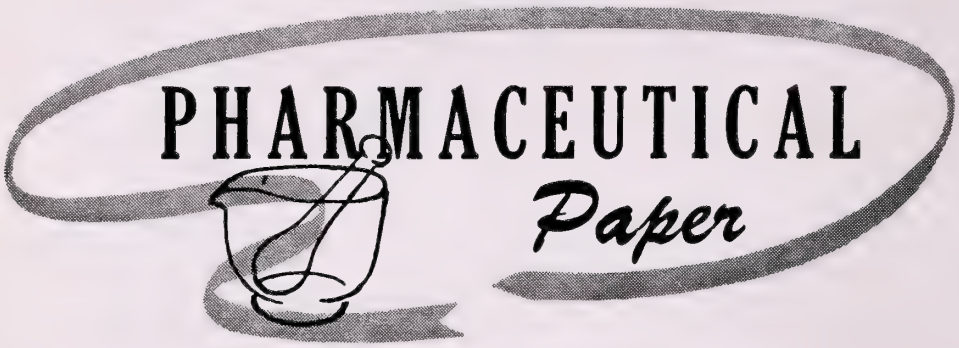
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USE OF POISON CONTROL CENTERS*

by

Henry L. Verhulst**

I am glad to have been invited to participate on this program, for it was just ten years ago that the first poison-control center was established in this city. As you may remember, it was pioneered by the American Academy of Pediatrics and Dr. Edward Press was the director.

The program drew together into a working unit some 20 hospitals, four full-time health departments, five medical colleges, the local medical society, the local chapter of the American Academy of Pediatrics, the American Public Health Association, and other groups. Its objectives were: (1) to maintain information on the formulation and toxicity of the many products on the market and the treatment necessary for the ingestion of the product; (2) to improve the treatment facilities of the hospitals so treatment might be expedited; (3) and to establish a reporting system to obtain information on the cause of accidental ingestions so that preventive programs might be developed. The local physician could obtain information on the toxicity and treatment of a substance in an emergency by contacting the center.

In the ensuing ten years, we have seen the establishment of approximately 500 poison-control centers. Except for the few in government hospitals, these centers are not under Federal control. They are largely autonomous organizations developed by local medical or paramedical groups in cooperation with state health departments. Most are located within hospitals, with a few in health departments.

Although the original concepts of the Chicago planning group are still used in most center operations, there have been, as might be expected, some deviations. One major point remains to be resolved. It was the intent of the original planners that the center's information resources would be exclusively a physicians' service. Therefore, the existence of the center was publicized only to the medical profession. Poison control proved to be a very popular program and, as centers were established, the press sought to publish articles on the value of the program. This was encouraged, as it served to inform the public about the problem of accidental poisoning to children. At the same time, however, it created an awareness on the part of the public of the existence of the center

*Delivered at the Chemical Section, National Safety Congress, October 29, 1963, Chicago, Illinois.

**Poison Control Branch, Division of Accident Prevention, Public Health Service, U. S. Department of Health, Education, and Welfare.

and its function. People gradually learned the telephone number of the center and began to call the center direct, instead of their physician. In some areas, such as New York City and Philadelphia, the number is listed in the directory.

There is still a major controversy on how the center should operate. In some areas the center still refuses to answer calls by the public; they maintain only a physicians' service. Other centers have developed a more lenient policy. Certainly none of us believe that anyone but a physician should treat. There are times, however, when the item, in the quantity ingested, is clearly harmless, and there are times, such as in lye poisoning, when immediate dilution with water or acidic juices is beneficial. These centers believe this type of information can be safely furnished to the lay public.

The poison-control center does not operate strictly with material available in their files. Most centers have established a list of consultants from nearby industry, educational institutions, and professional groups. When information is requested on an item, the directors of the centers utilize these highly specialized individuals to obtain the information. In this manner, they have access to much more information than would otherwise be available.

You might be interested in the type of calls received by the centers. From Mason City, Iowa, we had a request for information on O'Cedar furniture polish. The poison-control center at Seattle had a call for information on "Slugbait," a preparation containing metaldehyde. From Reno, we received a report that they had a request for the toxicity of the liquid center of a golf ball. The center in Ogden, Utah, had a call for information on Tofranil (symptoms — cardiac arrest; treatment — adrenalin I.V. and cardiac massage). The patient's life was saved. The Rome, Georgia, center was requested to furnish information on a red pill, later determined to contain small amounts of strychnine. In this case, in spite of excellent treatment, the patient expired.

These cases illustrate the wide range of calls handled by poison-control centers. Perhaps one of the greatest assets to the larger centers (and there are now a number that handle from 1,000 to 15,000 calls per year) is the experience gained from previous calls. Even the simplest text must require some interpretation on the part of the user. Sophisticated interpretation can be gained only through treatment and experience. When the personnel at a center receive two to three hundred calls a month, they develop techniques and a familiarity with the material which enables them to furnish better information faster to the persons requesting the service. Their ability to evaluate the situation is greatly increased.

I may have given the impression that the only information available from the poison-control center is that concerning ingestion of substances by small children. This is not true, as can be verified by reports such as follows:

From Connecticut we have a most interesting report of a husband and wife who were hospitalized with a number of symptoms, including pulmonary edema, vomiting, tachypnea, dyspnea, and fever of approximately 105 degrees. The history, as obtained by the physician, indicated that several days prior to this illness this couple had been using a paint remover containing methylene chloride, mineral spirits, and methanol. There was some question as to whether inhalation of this product would cause pulmonary edema. However, one of the consultants pointed out that chlorinated hydrocarbons could be degraded by heat. On further questioning, the physician learned that the couple had been using a gas stove during part of the time. It was most probable that these products were responsible for their illness. In this incident, supportive treatment, including oxygen and digitalis, led to the recovery of both patients.

Another report requested information about the effects of methyl ethyl ketone vapor used as a catalyst with epoxy resin. The symptoms were anemia, headache, and central nervous depression. In another incident, information on a zinc metal poisoning to a welder working in a closed space with galvanized pipe was requested.

One note of caution: when requesting information from a poison-control center, you should have complete knowledge for identification of the product. This should include name of product, manufacturer, address, and use of product. Be certain of the correct

spelling of the product name; there are many products with similar names whose toxicities vary greatly.

We have tabulated the requests for information from poison-control centers from July 1959 through January 1961. A total of 76,000 cases are included in these reports. Approximately 49 percent of the requests were for information concerning medicines, 17 percent for cleaning and polishing agents, 5.3 percent for petroleum products, 8.3 percent for pesticides, 5.5 percent for cosmetics, and 4.7 percent for turpentine and paint products.

Only 2.3 percent involved requests for information on plants, but this group presents very difficult problems for the centers. First, there are many common names for plants; hence, there is always some question as to exactly what plant is actually involved. Second, while there is a great deal of information on extremely toxic plants and those that have been used in medicine, there is very little information on the large variety of other plants found throughout the country. We can assume that, because no toxicity has been reported, these are harmless; however, such assumption at times can be dangerous. Also, many home gardeners use pesticide sprays and the center must always be alert to the possibility that harmful residues may be on the plant.

As an informational item, you might be interested in knowing the top 15 items most frequently reported to the poison-control centers. They are aspirin, insecticides (except moth balls), bleaches, detergents — soaps and cleaners — furniture polish, kerosene, vitamins, disinfectants and deodorizers, lye and corrosives, laxatives, other analgesics, tranquilizers, perfume and toilet water, cough medicines, and antihistamines.

At various times, members of industry have requested from local poison-control centers information on the ingestion of individual trade-named products. The results have frequently been disappointing. Why? Many of these local centers have limited numbers of reports of ingestion. A great many have less than 300 cases per year. If the incident of ingestion of individual products was one-tenth of one percent, and this would be high for most trade-named products, such a center would rarely have even one report. Thus, many centers are not able to report findings on individual trade-named products. This does not mean that the center is unwilling to divulge information on the product; it just does not have it.

Approximately half of the centers are now reporting their cases to the National Clearinghouse for Poison Control Centers, where the reports are coded for tabulation, and filed. We are happy to furnish members of industry with information from these records when requested. However, there are certain limitations on our material. In many cases, the amount of the substance ingested is rather small. In other cases, treatment has been instituted immediately and the stomach has been emptied before symptoms have occurred. In some unfortunate cases, illness develops and findings are reported.

We can report only the data contained in the records. At times, we get the feeling that industry might desire that some of the cases actually report serious symptoms so that they would be on record, and perhaps if the patient were not treated they would. However, I am sure you will agree that the best antidote is immediate emergency treatment. It should be apparent that the fact that no symptoms appeared was due to immediate proper treatment in many cases. It should not be taken to indicate that the product was not toxic in the dosage taken.

The poison-information center in your area will furnish to any physician its information on the toxicity and treatment necessary for the ingestion of a product. Depending on the area, it may accept calls from the lay public and advise on emergency treatment. You may, of course, contact the center within your area to determine what its policy is.

So far, I have discussed the secondary aspects of the problem of accidental poisoning, that of treatment following the actual poisoning. Many of the centers throughout the country have become involved in primary preventive activities. The center personnel are available for speaking engagements to community groups. In some areas, such as Los Angeles, Seattle, and New York City, the center has been responsible for developing educational material and conducting community preventive programs. There are films available through state health departments

for use in conjunction with preventive activities.

Several years ago the Public Health Service and the Food and Drug Administration, both agencies of the Department of Health, Education, and Welfare, developed a booklet, "Dennis the Menace Takes a Poke at Poison." This booklet is available in limited quantities from these agencies, and larger quantities can be purchased from the printer. Photo copies of a brochure, "Protect Your Family Against Poisoning," are available from the Food and Drug Administration. Photo copies of a new brochure, "Locked Up Poisons Prevent Tragedy," developed by the Planning Committee for National Poison Prevention Week, are available. Please contact me for information regarding their availability. The use of prepared photo copies reduces cost of production. The American Association of Poison Control Centers has several program aides, including a slide talk. Contact Dr. Irving Sunshine, Coroner's Office, 2121 Aderlbert Road, Cleveland, Ohio, for more information on this material.

A number of local health departments have utilized the services of the public health nurse to investigate the causes of accidental poisonings. They have been extremely effective in following up the chain of activities that have led to the poisoning. Thus, for example, we learned about a 13-month-old child who swallowed a quantity of furniture polish. He was hospitalized within seven hours, but died from bilateral pneumonitis 33 hours later. Let us see how this accident occurred. The mother had been polishing furniture, but had left the room momentarily. In her absence, an older child gave the victim the bottle and he ingested some of the contents with the above-mentioned results. This accident would have been prevented if the mother had simply put the bottle out of reach before going to another room.

We find that a frequent cause of poisoning is the use of food containers to store products which are potentially toxic. A great deal of the problem with the ingestion of bleaches and kerosene stems from this, as in the case of a 13-month-old child who drank kerosene which had been stored in a milk bottle. Certainly, a parent should expect a child to be familiar with a milk bottle and its usual contents. How can the child be blamed for ingesting this product? Had his parents remembered that kerosene should not be stored in a food container, the accident would not have happened. Our statistics show that in 77 percent of the cases involving the ingestion of petroleum distillates, the products had been removed from their original containers.

Primary prevention of accidents is most essential, but almost equally important is the primary prevention in the case of the child who has taken a substance, by immediately seeking information on the product and instituting proper treatment. A report such as this one is most pathetic:

On April 9, 1962, a child was brought to the hospital. She was so ill that her chances of survival were listed as poor. The patient in this case was a 28-month-old girl who had swallowed an unknown number of pills about 5 o'clock the previous afternoon. The critical statement which appeared in the remarks read, "The parents, believing that the medicine was not dangerous, did nothing about the matter at the time." She was not hospitalized until 10 o'clock the following day, when her condition was serious. Fortunately, through good medical care, this child survived. However, the problem presented to the medical staff that treated her was greatly magnified by this delay. Certainly every ingestion of an unknown quantity of substance must be considered serious until positive information indicates otherwise.

The major problem is one of prevention. No child will ever die from a product he has not taken. Many of you are in a position to stimulate active prevention programs within your community. I would recommend that you contact the health department or poison-control center in your area for information which might be helpful in a preventive program.

This discussion has concerned the activities of poison-control centers affiliated with the state poison-control programs and the National Clearinghouse for Poison Control Centers. There are many unaffiliated poison-treatment centers. They are located in hospitals, and have been developed largely through the interest of community organizations.

Setting up such a center involves merely

the gift of an antidote cabinet, complete with antidotes, to the local hospital. This is invaluable in the treatment aspect of poisoning, since many such hospitals have small staffs and meager facilities. It permits the physician, coming to the hospital with his patient, to have all of the equipment necessary for the treatment of a poisoning, available in one area.

While these centers do not, in most cases, maintain an information service, they will have, I am sure, the standard texts on pharmacology and medicines which are available in any hospital or pharmacy. They can, through these resources, furnish information to a physician on a few products. They cannot handle calls around the clock, and they do not have the extensive informational files that the larger centers have, which would enable them to answer some of the rare types of calls. I mention this because, from time to time, we receive complaints about one of these centers. I do not wish to downgrade the value of such facilities, but only to point out that they have limited resources. If you do not obtain the information needed from such a center, and if the treatment center itself does not refer you to the nearest poison-control center, you should contact it directly.

The treatment center has one additional contribution to make to the community. Many of the personnel involved in the treatment center are interested in preventive aspects. They are willing to aid in developing and stimulating preventive medicine. Therefore, I believe it behooves all of you who are interested in such programs to know the location of treatment centers which are not listed in our directory of poison-control centers, as they can be of help in your program.

In 1961, Congress passed Public Law 319 authorizing the President of the United States to proclaim the third week of March as National Poison Prevention Week. The weeks in 1962 and 1963 were extremely successful. Plans for the 1964 observance are well underway. If your organization has not yet made plans for this week, we recommend that you start now. Information is available from the Poison Control Branch, Division of Accident Prevention, Public Health Service, Washington 25, D. C.

JUNKING NARCOTIC BUREAU NO ANSWER TO DRUG PROBLEM

The recommendation that the functions of the Treasury's Bureau of Narcotics be divided between the Departments of Justice and Health, Education and Welfare — made by the President's Advisory Commission on Narcotics and Drug Abuse — offers no real solution to the narcotic and drug abuse problem in the United States, an American pharmacy official stated recently.

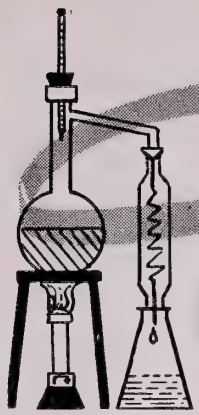
"The Advisory Commission's recommendation to eliminate the Bureau of Narcotics conflicts with the views of Attorney General Kennedy and his predecessors," stated Dr. William S. Apple, executive director of the American Pharmaceutical Association.

"Furthermore, the Commission's charge that pharmacists appear to be a major source for the illicit diversion of non-narcotic dangerous drugs in the United States is refuted by their own statistics," declared the national professional society director.

"The Commission cites 1298 convictions during a ten-year period including non-professional personnel employed in pharmacies. This is an average of 130 cases per year among more than 100,000 active practicing pharmacists dispensing almost 800 million prescriptions and is no just basis for the Commission's indictment of the pharmacy profession. We don't condone a single pharmacist breaking the law or neglecting his professional responsibilities.

"Pharmacists are as dedicated as the Commission, government agencies and the other health professions to the elimination of illicit drug traffic. Narcotics Commissioner Henry Giordano, his predecessor, Harry Anslinger, and Food and Drug Commissioner, George P. Larrick, have repeatedly testified before Congress that the pharmacist is not the problem in illicit traffic. Both federal agencies have been receiving the complete cooperation of practicing pharmacists and the American Pharmaceutical Association in their law enforcement activities.

"APhA supports needed funds and legislation for law enforcement activities of the Narcotics Bureau and the Food and Drug Administration. The implementation of the Commission's recommendations would only destroy the present efficient system developed over 50 years of dedicated effort," said Dr. Apple.



Advances In Drug Research

STEROIDS AND ANTIBIOTICS FOUND EFFECTIVE IN TREATING CASES OF CAUSTIC POISONING

An improved method for treating patients who have swallowed corrosives such as lye, ammonia, and other caustics and acids found in common household use has been reported by a University of Rochester medical research team.

In a paper published recently in **The New York State Journal of Medicine,** Dr. C. T. Yarington, Jr. and Dr. Clyde A. Heatly of the University of Rochester Medical Center reported that prompt hospitalization, examination of the esophagus, and a treatment method that includes steroids and antibiotics proved effective in most cases of caustic poisoning.

A significant finding of the University of Rochester project is that some of the most popular household bleaches can produce serious burns in the mouth, throat and esophagus. Heretofore it has been believed that such substances did not necessarily cause burns when swallowed.

In their report, the physicians emphasized the need for prompt esophagoscopy in most cases of caustic poisoning, since external examination of the mouth and throat alone does not reveal the possibility of damage to the esophagus. In fact, they noted a large number of cases where the esophagus was burned **although there were no burns in the mouth or throat.**

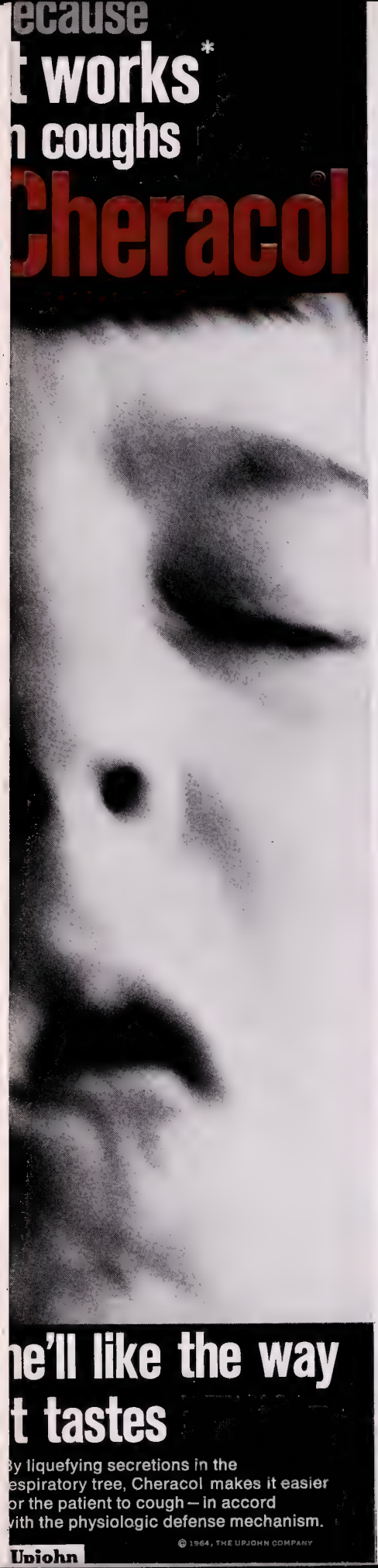
In more than half of the patients examined, the injuries were sufficiently severe to require treatment. Without prompt hospitalization, examination of the esophagus, and early and continuing treatment, the University of Rochester group estimates that many of these patients would have required major surgery and might have suffered lifelong disability. Of those treated over 95 per cent have returned to a normal life without major surgery.

According to Drs. Yarington and Heatly, the method of treatment developed by the University of Rochester group was designed to prevent permanent damage to the esophagus and to eliminate unnecessary hospitalization. The method included what is believed to be the first controlled study of the use of the steroid methylprednisolone to reduce inflammation in the esophagus. This steroid was found useful in promoting healing, reducing the formation of scars, and shortening the patient's hospital stay. No adverse effects were noted.

The potential importance of the University of Rochester project is indicated by the fact that caustics rank as one of the primary causes of poisoning. At the University's Poison Control Center cases of suspected caustic poisoning ranked as the second largest single source of calls in 1962. During that period the number of calls in this category totaled 125 — more than double the 1961 total; 89 of these calls involved children.

Despite the encouraging results of their treatment method, the Rochester group believes that the key to successful treatment lies in the promptness with which such cases receive medical care. They point out that a person who has ingested a bleach, lye, or other corrosive should receive professional medical attention promptly "even if the patient or his family believes he may not have completely swallowed the poison."

In their paper, Drs. Yarington and Heatly warned that "the final solution to the problem of caustic poisoning will not come until



corrosive substances cease to be found within the reach of small children."

They urged that packaging such products in eye-catching, colorful containers which attract the attention of children "should be discouraged."

PARAMETERS OF PRECLINICAL TERATOGENIC TESTS OUTLINED

Important practical considerations regarding the preclinical testing of drugs for evidence of teratogenic activity are enumerated and discussed in the review article appearing in the December issue of APhA's **Journal of Pharmaceutical Sciences.** Distinguishing the problems of preclinical testing by the pharmaceutical manufacturer, from the confusing and hysterical warnings which were a part of the fallout from the thalidomide tragedy, Dr. Harold M. Peck of the Merck Institute for Therapeutic Research, points out that ". . . the conditions employed in the more academic teratogenic studies may not apply to the preclinical evaluation of safety since the drug should (for preclinical testing) be administered daily in reasonable doses." The problem of evaluating the safety of a drug for the fetus is not new, and is similar to that routinely faced by the toxicologist and the clinician when a new compound is evaluated for its safety for initial clinical trials.

The article comprises an informative review of the principles of preclinical testing for drugs from a toxicological as well as a teratogenic standpoint. Explained in an easy to understand manner are the factors to be considered in the safety evaluation of therapeutic agents; the various techniques for the testing of drugs for teratogenic activity; the importance of the choice of laboratory animals for these tests; and the different methods that can be employed in examining the results of the laboratory tests for evidence of fetal malformations.

Also enumerated are the various types of undesired effects which accompany administration of medicinal agents. The four general classes of undesired effects, (a) exaggerated primary attributes, (b) secondary attributes, (c) hypersensitivity, and (d) "true" toxicity, are explained, particularly as they pertain to preclinical testing. Since a toxi-

cologist considers any drug to have certain undesired effects, the degree of risk related to a particular agent must be considered. In general, the more serious the disease, the more risk is acceptable. Conversely, if a disease is of minor consequence, the drug must have a large safety factor.

In addition to the basic principles applicable to toxicological studies, there are three major types of teratogenic studies that can be employed for safety evaluation of new drugs. These are outlined as:

Established pregnancy
- Single dose
- Multiple dose

Single generation (breeding) study
- Drug administration prior to mating and throughout pregnancy
- Two or more litters by same female

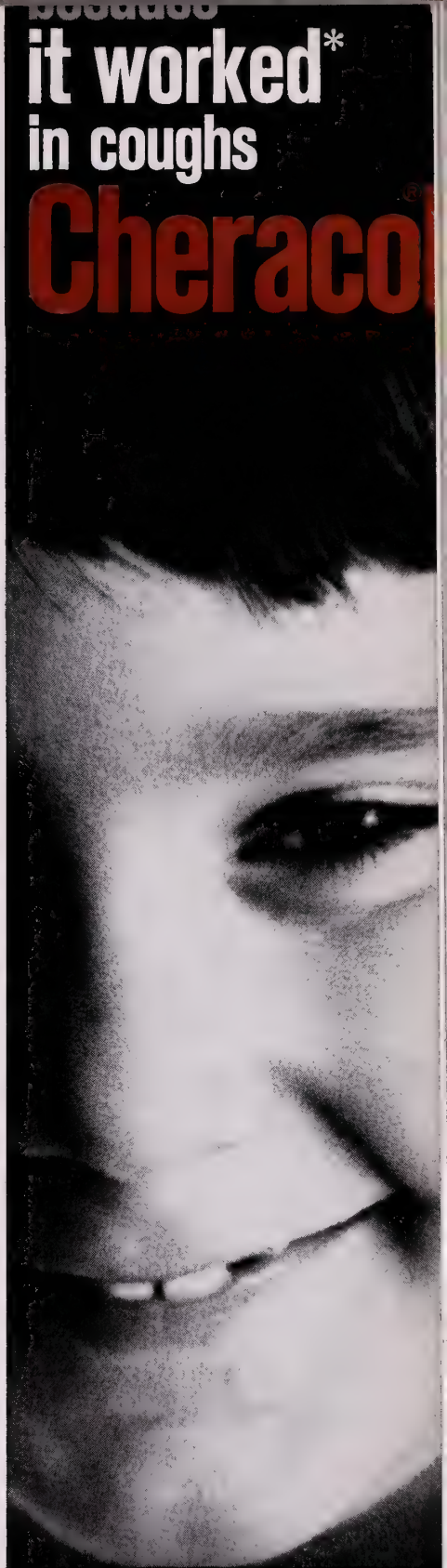
Multiple generation studies
- Drug administration prior to mating and throughout pregnancy
- Young animals fed medicated diet after weaning and mated when mature
- Two or more generations produced

From these studies, various possible effects can be discovered, such as the effects on the fertility of the male and female, implantation of the ova, development of the embryo and fetus, resorption, abortion, delivery, live births, size of litters, teratogenic effects, viability of the newborn, growth of young, and quality of mother's milk (nutritional and toxicity).

Reminding us, however, that many drugs cause teratogenic effects in animals but not in humans, Dr. Peck concludes his article by qualifying the results of teratogenic studies. "At the present time, if new drugs can be shown to have teratogenic potentialities in animals, such findings should, at most, serve as a warning to clinicians if such (animal teratogenicity) became a legal barrier to human consumption, patients would be denied the benefits of some antibiotics, cortisone and even aspirin."

Report Reference: Peck, H. M., **J. Pharm. Sci.**, 52:1115 (1963).

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A DEVOTED PUBLIC SERVANT

In January of this year, it was announced that Bliss Wilson had retired as secretary of the South Dakota Pharmaceutical Association and of the State Board of Pharmacy. Bliss had occupied these posts for many years and his devotion to the cause of pharmacy is well known in the approximately 240 drug stores and among the some 500 practicing pharmacists in South Dakota. He is also a man of national stature in pharmacy, recognition of which has been made by his election to high office, including his presently-held position of president of the National Association of Boards of Pharmacy.

Important as the contributions to his profession have been, and these are innumerable, more important is the high principle upon which these were predicated — a sincere devotion to the cause of protecting the public health. In accordance with this guiding principle, he has devoted his career, relentlessly and untiringly, to seeking that which would serve this cause. Like all men of great stature, he has suffered from those who misunderstood his motives, but also, like those men, this has not deterred him from the objectives he sought. And in his efforts pharmacy has received its reward.

Pharmacy may well be proud of men like this, and we, in South Dakota, can take additional pride in the fact that he is one of us.



NEWS IN BRIEF FROM AROUND THE STATE

Harry Lee, Alcester, took an extensive winter trip, flying to Tacoma, Washington, and then motoring to Arizona in the company of his brother and brother's wife. They traveled as far south as Guayamus, Mexico, returned to Tempe, Arizona, from where Harry flew back to South Dakota.

Frank Closson, Geddes, has closed his drug store. The stock was sold to **Roger Eastman,** Platte.

Richard Davies, Bridgewater, has built a fine, new drug store, with an all-glass front and modern fixtures. This is the former Wettergreen store.

Pat Locke, Gregory, suffered a heart attack recently. He has been relieved at the store by **Jack Mowell,** Murdo.

Mr. and **Mrs. Roger Molstad,** Canton, spent three weeks in California during the past winter. **Leon Farrell,** Canton, assumed the duties at the store during Roger's absence.

Milton Swenson, Lake Preston, has been appointed the city's mayor. He will complete the unexpired term of former mayor Gordon Maxam.

Marvin Schmidt, Blakeley, Minnesota, a fourth-year pharmacy student at South Dakota State College, has been initiated in Phi Kappa Phi, national scholastic honor society.

Kent L. Anderson, Valley Springs, fourth-year pharmacy student at South Dakota State College, has been named recipient of a $250 award from the Matthew P. Brzica Foundation.

REDMAN NAMED STATE HISTORIAN FOR APhA

Dr. Kenneth Redman, professor and head of the Department of Pharmacognosy at South Dakota State College, has been named state historian for the American Pharmaceutical Association. Information gathered by the historians will be filed in a college of pharmacy library in each state.

Anyone having clippings or other material of historical significance to pharmacy in South Dakota is asked to contact Professor Redman. Information on early drugstores, wholesale druggists, and pharmacists is particularly desired.

STATE BOARD SETS EXAMINATION DATES

The South Dakota State Board of Pharmacy will conduct examinations for licensure on June 8, 9 and 10, according to a recent announcement. The examinations will be given in Brookings.

D. B. DONER TO RETIRE

D. B. Doner, director of admissions and records at South Dakota State College, has asked to be relieved of his duties and to be placed on emeritus status effective July 1, 1964. Generations of State alumni have come to

know him as "Mr. State."

Doner was a member of the first four-year class to be graduated from the School of Agriculture in 1917. He assumed the post of registrar in 1922 and is believed to be the oldest college registrar in the area in terms of service. Amid the details of his full-time administrative work, he earned a bachelor of science degree at State in 1928.

In addition to his position as registrar (now director of admissions and records), Doner has served as faculty secretary since 1924; secretary-treasurer of the South Dakota State Alumni Association, and editor of State's "Alumnus" since 1936; secretary-treasurer of the Alumni Foundation at State since 1945 and secretary of the Committee of Deans (today's Administrative Council) since 1922. He also served, for a time, as dean of men.

Doner has seen 10,499 bachelor of science degrees awarded at State under his signature since 1932—roughly 92.5 per cent of the baccalaureate degrees awarded by State since the first one in 1886.

His affiliations outside of State include the State Association of School Boards, Society for Crippled Children, the Crippled Children's Hospital and School of Sioux Falls, the Methodist Church and the Kiwanis Club (district governor in 1946 and international trustee, 1955-57). He also served 18 years on the Brookings Board of Education, eight years as president.

Mr. and Mrs. Doner have a daughter, Mrs. Paul (Valeria) Marcil, Worthington, Minn., and two sons, Dr. Dean Doner, Purdue University, West Lafayette, Ind., and Keith, Rapid City.

ARNTSON NAMED SALES REPRESENTATIVE FOR PARKE-DAVIS

Mr. G. W. Smith, regional sales manager of Parke-Davis, announces the appointment of **Ronald A. Arntson** as sales representative in the Central South Dakota territory.

Mr. Arntson, who has a B.S. degree from South Dakota State College, is married and has two children. His headquarters town will be Mitchell.

STATE COLLEGE RECEIVES GRANT FOR SELENIUM STUDY

An $8,100 grant from the Atomic Energy Commission (AEC) to South Dakota State College for a continuing study on the effects of selenium poisoning and its control in animals has been announced by President H. M. Briggs.

Research workers at the South Dakota State Agricultural Experiment Station have contributed materially to the understanding of the effects of selenium poisoning and its control in animals during the past three years, and AEC grants for the research now total $23,100.

At the same time, A. W. Halverson, professor of biochemistry at State, points out scientists have yet to learn exactly how selenium, as it occurs in grains and feed, affects body metabolism.

Research at State has demonstrated that diets containing arsenical compounds or linseed oil meal give marked protection, particularly in pigs and rats, against selenium poisoning. Research elsewhere has indicated that selenium is an important element in animal diets — for example, it is recognized as a substance that can contribute to the prevention of white muscle disease in livestock.

Selenium poisoning is no longer considered a major problem to livestock growers as it can be quickly and easily detected and the herd or animals can be taken off high selenium feeds.

Halverson explains, however, the recent discoveries make it even more important to understand the behavior of selenium within the animal body and how it contributes to important body functions. He also noted that work on occurrence and reactions of selenium is possible only because of new developments in the use of radioactive isotopes, an area of particular interest to the AEC.

NEWS ITEMS FROM THE ALLIED DRUG TRAVELERS

Quarterly Meeting: The Allied Drug Travelers held their quarterly meeting in the Pine Room of the Y.M.C.A., Sioux Falls, January 11. Principal item of business concerned the establishment of a scholarship to be awarded to a pharmacy student at South Dakota State College. The amount of the scholarship will be

$245.00. The Committee on Policy & Affairs is charged with setting up the mechanics and policies of the scholarship.

It was also decided to sponsor a "Las Vegas Night" in April. This is intended to serve as the kick-off for the Travelers' membership drive and also as a means to raise funds for the scholarship. Arrangements for the event will be handled by the Social Committee.

Bill Couch (Wyeth Laboratories) has been transferred to Omaha as hospital representative for Wyeth. His transfer left a vacancy on the Board of Directors. **Phil Sabag** (Bristol Laboratories) was elected to fill the vacancy.

Don Barr (Lederle Laboratories) attended a one-week advanced sales seminar at Pearl River, New York. This was a refresher course on sales technique and product knowledge.

Don Alfred (Merck Sharp & Dohme) attended a sales meeting in Minneapolis to receive advanced technical training on new products.

DISTRIBUTION POLICY ON CONTAC REAFFIRMED

Menley & James Laboratories has reaffirmed its "Drug-Channels-Only" distribution policy on the cold product Contac. In a letter dated January 22, 1964, addressed to 55,000 pharmacies, the company stated: "MenJ has neither abandoned nor modified its original distribution policy. From the time of the introduction of Contac it has been — and continues to be — MenJ's objective to keep Contac in the pharmacy." Cited in the letter were the efforts of the company to accomplish this objective.

The letter was sent because of the recent appearance of Contac in some food stores and other non-drug outlets resulting in criticism of the company's distribution policy.

AMERICAN PHARMACEUTICAL ASSOCIATION AND AMERICAN BABY MAGAZINE CO-OPERATE TO HELP POISON PREVENTION OBSERVANCE

Cooperating with the American Pharmaceutical Association, the publishers of "American Baby" magazine have donated the back cover of their March issue to a public service advertisement on the dangers of accidental poisoning in the home. "The prevention of accidental poisoning of our children is of vital concern and requires the cooperative efforts of the health team and news media," an APhA spokesman said. Publication of the ad in March corresponds with National Poison Prevention Week, March 15-21.

Headlined, "Poisons Act Fast . . . So Can Children — Protect Your Children," the ad calls attention to the fact that almost a half million children under five years old are accidentally poisoned in their homes each year. Over 400 of these victims die. The "American Baby" magazine is distributed free to patrons of pharmacies throughout the United States.

LILLY ENTERS 32nd YEAR OF ANALYSIS SERVICE

Lilly Pharmacy Operations Clinic reports financial statements have begun to pour in from all over the country. This unique service has been in continuous operation for the past 32 years. As many of you know, this impartial, comprehensive and confidential management aid is an invaluable service in assessing the economic condition of community pharmacies.

A report of the completed analysis includes an electronically prepared summary sheet which provides the data in both dollar and percentage amounts. Constructive comments are offered in order to provide more facts for better managerial decisions. When necessary, specific topics are thoroughly discussed and included as special attachments.

Send your financial statements and prescription data to the Lilly Pharmacy Operations Clinic, Eli Lilly and Company, P. O. Box 814, Indianapolis, Indiana, 46206.

APhA JOINS AMA AND USP IN NOMENCLATURE PROGRAM

The American Pharmaceutical Association formally joined the American Medical Association and the United States Pharmacopeia effective January 2, 1964, as a sponsor of the program for the selection of nonproprietary names for drugs. Each of the three organizations has over fifty years of experience with nonproprietary nomenclature pro-

grams; these have been essentially independent programs which supplemented each other. The first coalition of these programs occurred in 1961 when the AMA-USP Nomenclature Committee was formed which to date has produced names for more than 300 substances of demonstrated and potential therapeutic utility; these names were given the designation United States Adopted Names (USAN).

USAN monographs will be published regularly in the Journal of the American Medical Association and in other medical and pharmaceutical periodicals, including the Journal of the American Pharmaceutical Association. A cumulative list of USAN will be published annually by the USP as part of its obligation in the program. Card files of the USAN are published by APhA.

Many of the USAN selected to date have been adopted to meet the needs arising from the 1962 Drug Amendments.

DIRECTORY OF PHARMACISTS AVAILABLE FROM APhA

The APhA **Directory of Pharmacists** is now available from the American Pharmaceutical Association.

The Directory is comparable to the directories of the other health professions. The Directory of the American Medical Association, the American Dental Directory and the American Veterinary Medical Association Directory are published by the respective associations representing those professions.

While the Directory is the first such publication listing the pharmacists of the United States by name, it is similar to the directories of the other health professions. The 1,740 page Directory lists the 124,000 pharmacists of the United States in two ways. Section One contains a geographical - alphabetical listing, while Section Two is a strict alphabetical listing of the 124,000 pharmacists, with the city and state following each name.

A price of $20.00 each has been set for the Directory.

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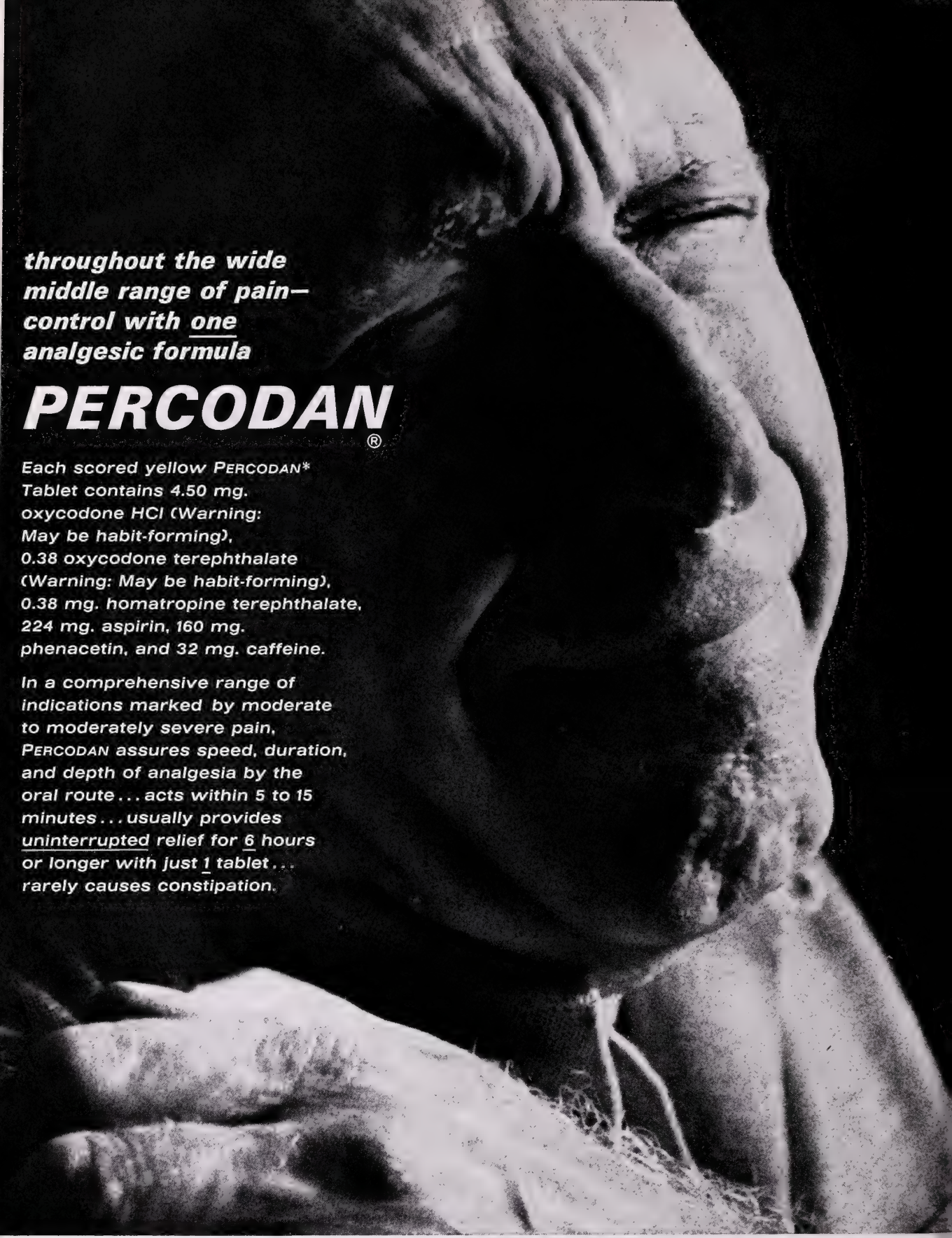
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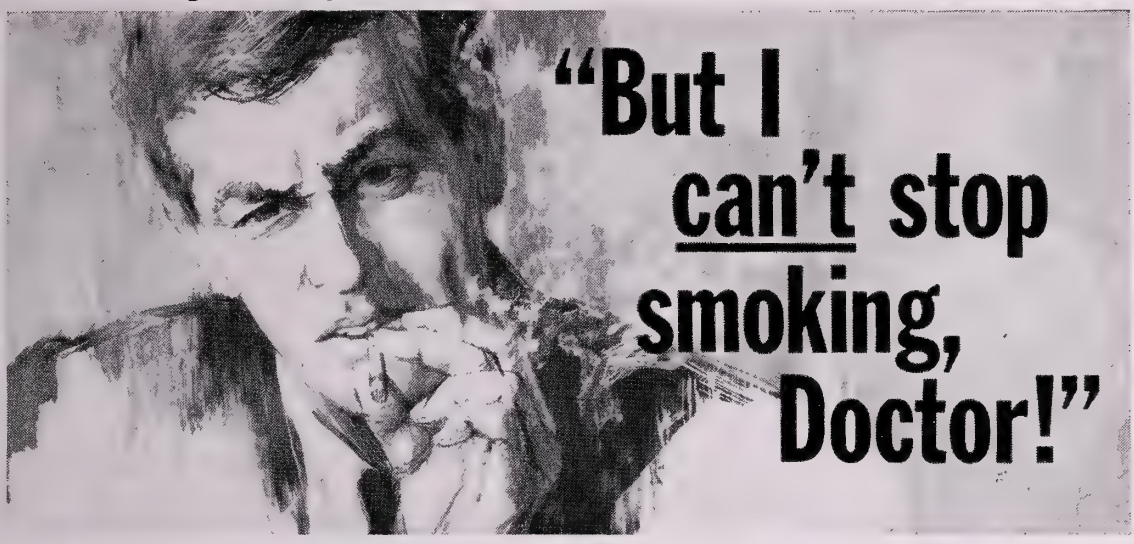
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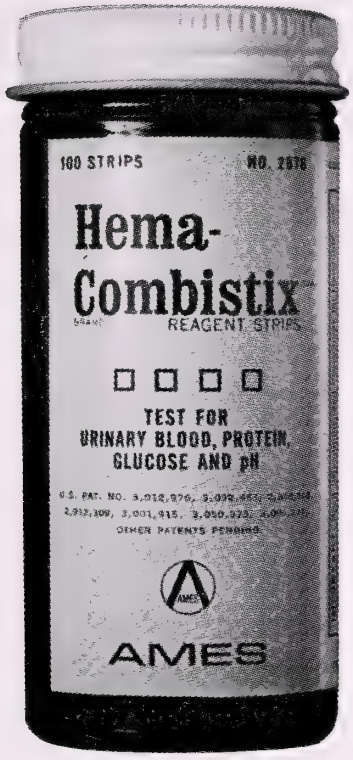
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*Roseman, E.: *Neurology* **11**:912, 1961. 33664

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

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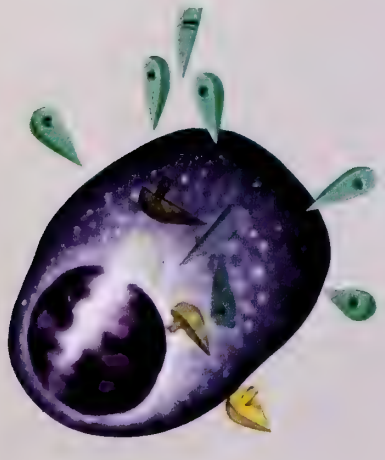
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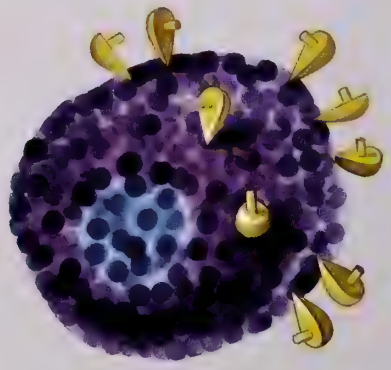
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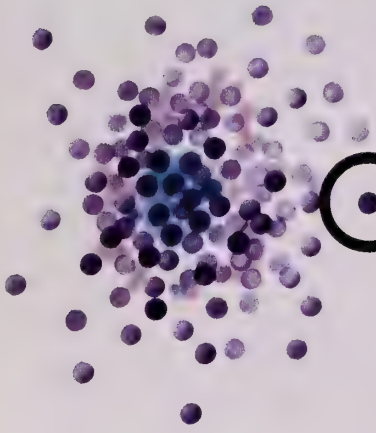
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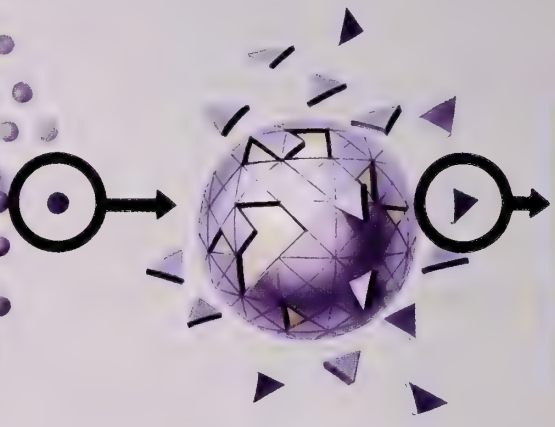
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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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relieves pain and relaxes muscle

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carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg.

Also available with ¼ gr. codeine as SOMA® COMPOUND WITH CODEINE: carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg., codeine phosphate 16 mg. (Warning: may be habit forming).

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Side effects: Although there has been no evidence of tolerance, withdrawal symptoms or excessive self-medication, Soma Compound and 'Soma' Compound with Codeine, like other central nervous system depressants, should be used with caution in addiction-prone individuals. While codeine addiction is relatively rare and easily broken, the same precautions must be observed as for any other opium alkaloid. Nausea, vomiting, constipation and miosis are possible codeine side effects. Should symptoms of hypersensitivity occur, discontinue medication.

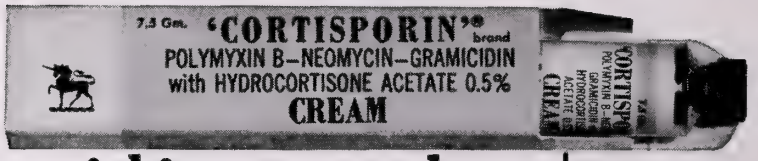
Contraindications: None reported.

Complete product information available in the product package, and to physicians upon request.

Dosage: Usual dosage is 1 or 2 tablets 4 times daily.

Supplied: 'Soma' Compound is available in orange, scored tablets; bottles of 50. 'Soma' Compound with Codeine (narcotic order form required) is available in white, lozenge-shaped tablets; bottles of 50.

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anti-inflammatory
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rarely sensitizing

CREAM—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 10,000 Units; Neomycin Sulfate (equivalent to 3.5 mg. Neomycin Base) 5.0 mg.; Gramicidin 0.25 mg.; Hydrocortisone Acetate 5.0 mg. (0.5%).

In a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, distilled water, and 0.25% methylparaben as preservative.

Available: In tubes of 7.5 Grams.

OINTMENT—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 5,000 Units; Zinc Bacitracin 500 Units; Neomycin Sulfate 5 mg. (equivalent to 3.5 mg. Neomycin Base); Hydrocortisone 10 mg. (1%).

In a special white petrolatum base.

Available: In tubes of ½ oz. and ⅛ oz.

*U.S. Patent Nos. 2,565,057–2,695,261

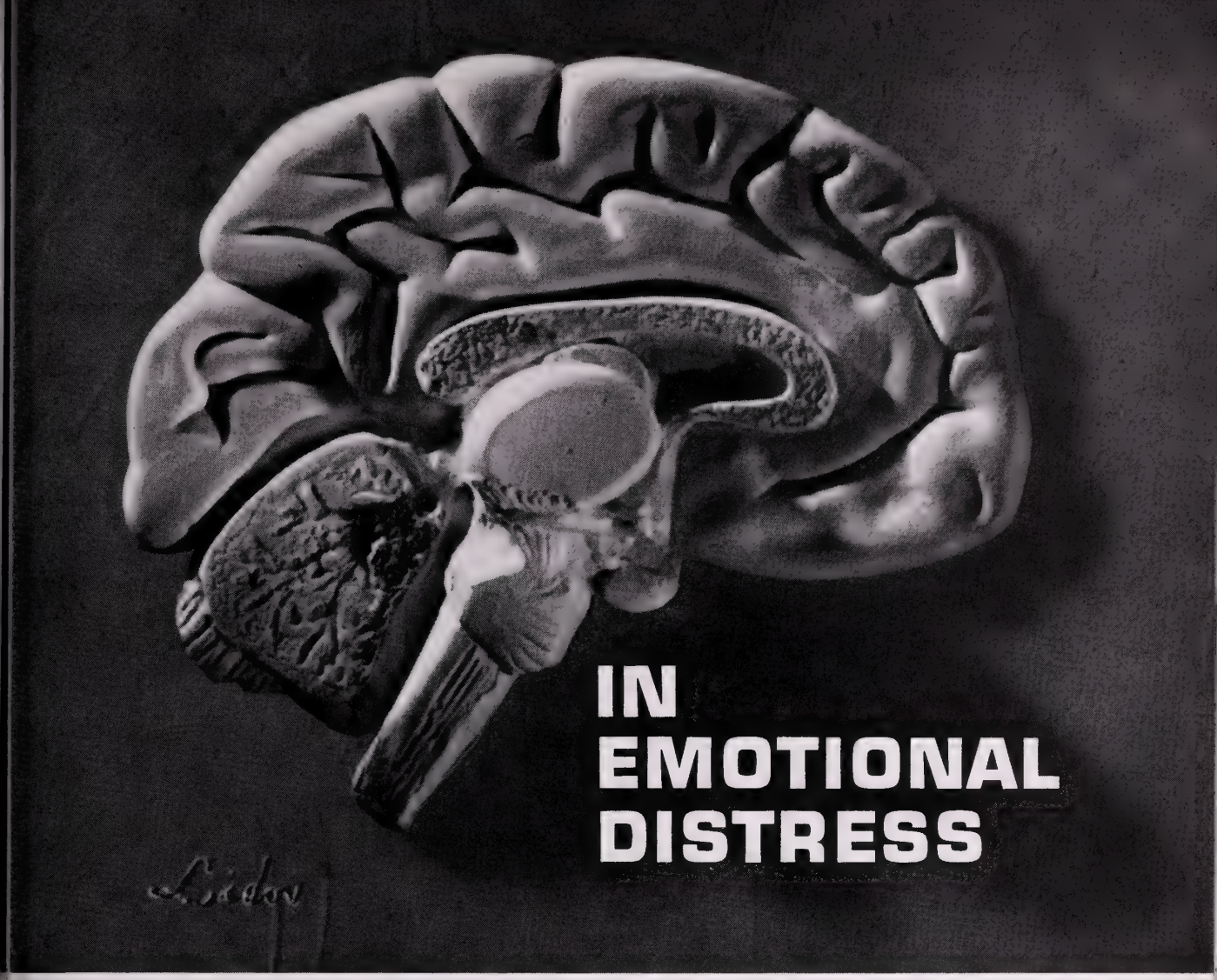
Indications: Wherever inflammation or infection occurs and is accessible for topical therapy.

Contraindications: These drugs are contraindicated in tuberculous, fungal or viral lesions (herpes simplex, vaccinia and varicella).

Caution: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.



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Precautions: Should administration of meprobamate cause drowsiness or visual disturbances, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage.

Complete product information available in the product package, and to physicians upon request.

Usual adult dosage: One 400 mg. capsule or two 200 mg. capsules at breakfast; repeat with evening meal.

Supplied: 'Meprospan'-400 (meprobamate 400 mg.), 'Meprospan'-200 (meprobamate 200 mg.), each in sustained-release capsules. Both potencies in bottles of 30.

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CME-1369

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The bane of the steroids, new and old, has been that certain undesirable metabolic effects — including salt and water retention, edema, overstimulation of the appetite, excessive weight gain, mood swings — seemed to be firmly linked to the primary anti-inflammatory action. For arthritics already overweight, or with cardiovascular disease complicated by edema, or those who were tense and anxious, steroid treatment could aggravate their problems. But with the advent of ARISTOCORT® Triamcinolone, many of these arthritics became "steroid-treatable." The reason: Not only did *this* steroid provide gratifying relief of inflammation and pain, but it did so *without* the penalty of overstimulation of the appetite, excessive weight gain, salt and water retention, edema, and undesirable euphoria. Six years of widespread use has confirmed these benefits for other arthritics as well as those formerly untreatable.



Side Effects: Since it may, under some circumstances, produce many of the unwanted effects common to all cortisone-like drugs, discrimination should always be exercised in administering ARISTOCORT® Triamcinolone. Any of the Cushingoid effects are possible, as are purpura, G.I. ulceration, increased intracranial pressure and subcapsular cataract. Corticosteroids generally may mask outward signs of bacterial or viral infections. Catabolic effects to watch for include muscle weakness and osteoporosis. Weight loss may occur early in treatment but is usually self-limiting. *Contraindications:* While the only absolute contraindications are tuberculosis, herpes simplex and chicken pox, there are some relative contraindications (peptic ulcer, acute glomerulonephritis, myasthenia gravis, osteoporosis, fresh intestinal anastomoses, diverticulitis, thrombophlebitis, psychic disturbance, pregnancy, infection) to weigh against expected benefits.

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1 mg., 2 mg., 4 mg. or 16 mg. tablets

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RECOGNIZE THIS PATIENT?



"I don't sleep well . . . I dream a lot . . . wake up tired and irritable. I don't have any appetite . . . I'll never be cured."

When you recognize signs of depression and anxiety and associate them with an organic condition—add 'Deprol' to your therapy.

Typical conditions in which 'Deprol' should be considered for control of the associated depression and anxiety:

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When you recognize depression and anxiety traceable to an emotionally charged situation with no somatic disorder—start the patient on 'Deprol'.

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Deprol®

meprobamate 400 mg. + benactyzine hydrochloride 1 mg.

BRIEF SUMMARY: *Indications:* Depression, especially when accompanied by anxiety, tension, agitation, rumination or insomnia. *Side Effects:* Slight drowsiness and, rarely, allergic reactions, due to meprobamate, and occasional dizziness or feeling of depersonalization in higher dosage, due to benactyzine, may occur. Meprobamate may increase effects of excessive alcohol. Use with care in patients with suicidal tendencies. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction. Withdraw gradually after prolonged use at high dosage. *Complete product information available in the product package, or to physicians upon request.*

USUAL ADULT DOSAGE: 1 tablet q.i.d. May be increased gradually, as needed, to 3 tablets q.i.d.; with establishment of relief, may be reduced gradually to maintenance levels.

SUPPLIED: Light-pink, scored tablets. Bottles of 50.

WALLACE LABORATORIES / *Cranbury, N. J.*

CD-817



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'METHEDRINE'® brand
METHAMPHETAMINE HYDROCHLORIDE

is an easier way to help control food craving & keep the reducer happy

With "hunger pains" abolished, the patient can shrug off the chains of psychogenic craving that bind him to his habit of overeating and cooperate cheerfully with the prescribed diet.

In obesity, "...our drug of choice has been methedrine (methamphetamine hydrochloride)...because it produces the same central effect with about one-half the dose required with plain amphetamine, because the effect is more prolonged, and because undesirable peripheral effects are significantly minimized or entirely absent." Douglas, H. S.: West. J. Surg. **59**:238 (May) 1951.

Description: Each scored tablet contains 5 mg. 'Methedrine' brand Methamphetamine Hydrochloride.

Dosage: 2.5 mg. (½ tablet) 3 times daily. May be increased gradually according to response; more than 10 mg. daily rarely is needed. The last dose of the day should not be taken later than 6 hours before bedtime.

Side effects: Insomnia may occur if taken later than 6 hours before retiring. The usual peripheral actions of sympathomimetic amines (vasoconstriction and acceleration of the heart) are minimal and little noticed on low or moderate dosage.

Contraindications and precautions: Should not be used in patients with myocardial degeneration, coronary disease, marked hypertension, hyperthyroidism, insomnia or a sensitivity to ephedrine-like drugs. Moderate hypertension in the obese is not necessarily a contraindication since it may be relieved as the overweight is reduced.

Supplied: Tablets 5 mg., scored, in bottles of 100 and 1000.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.



The discharged mental patient... and Thorazine®

brand of chlorpromazine

"The average practitioner is quite capable of handling the vast majority of ex-institutionalized patients by regulation of medication, reassurance, manipulation of the environment where necessary, and . . . other technics." Kline, N.S.: Postgrad. Med. *27*:620 (May) 1960.

The family physician must often assume responsibility for the discharged mental patient. Thorazine (chlorpromazine, SK&F) can be a valuable adjunct to the continuing care of this patient, because it helps prevent relapses by insulating him from the impact of stressful experiences. For successful rehabilitation and prevention of rehospitalization, however, the former mental patient—and often his family—also needs the guidance and counsel of his physician.

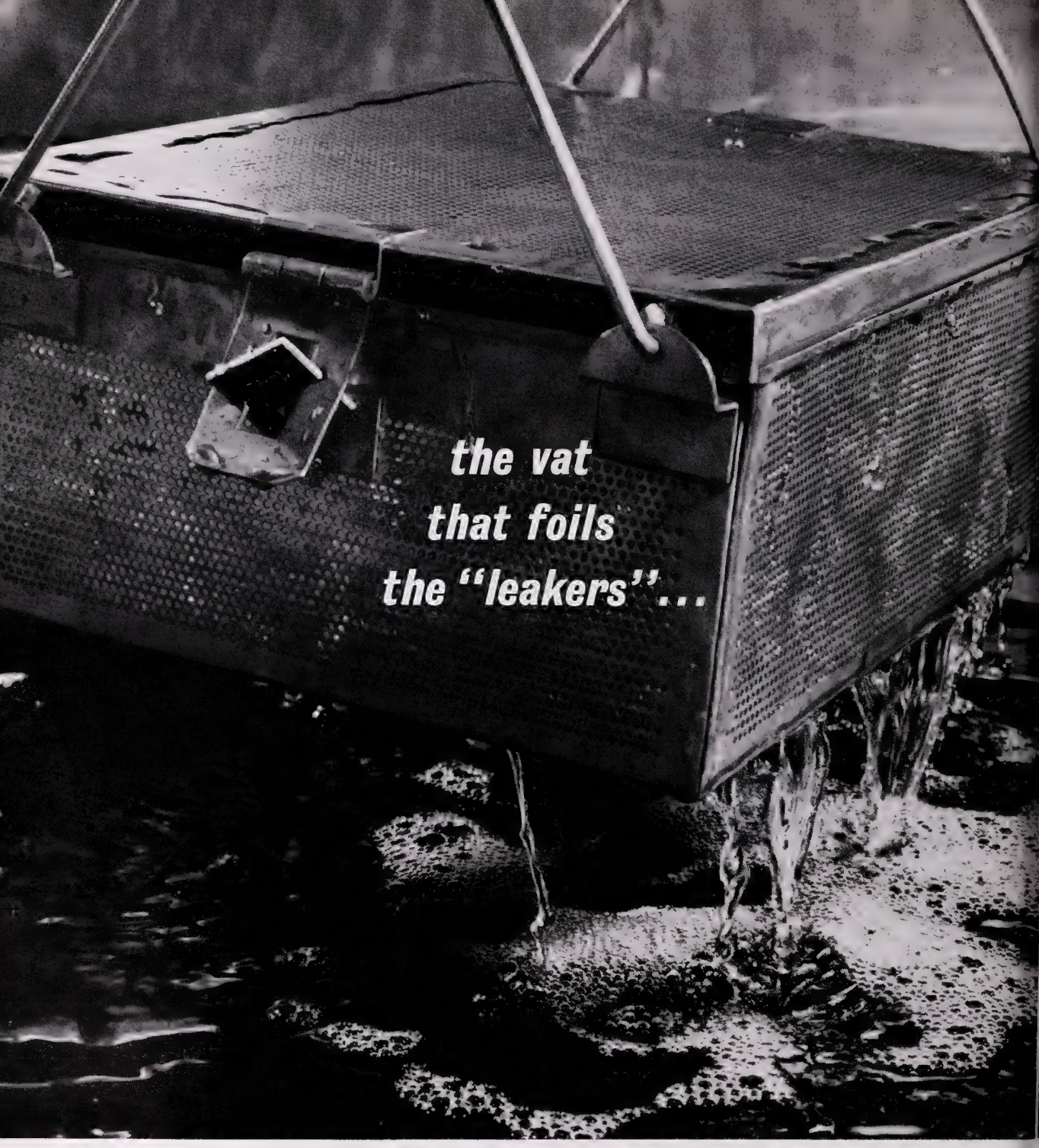
Many physicians are surprised by the high doses of Thorazine (chlorpromazine, SK&F) used in patients released to their care from mental hospitals. This surprise may be expressed by a drastic reduction in dosage "to play it safe"—with serious consequences for the patient.

The successful maintenance of former mental patients requires adequate, often "high" dosage, and often for prolonged periods of time. Fortunately, these dosages do not mean greater risks for the patient. On the contrary, there is much less risk of serious side effects once a patient has become gradually accustomed to Thorazine (chlorpromazine, SK&F)—*regardless of dosage*—over a period of a few months. Continuing therapy is almost always well tolerated, and is essential to most patients' continued well-being.

Brief Summary: Thorazine (chlorpromazine, SK&F) has been successfully used for 10 years in the treatment of mental and emotional disturbances, and has proven highly effective in the maintenance therapy of former hospitalized mental patients. *Principal side effects:* The most frequently encountered side effect is transitory drowsiness. Other occasional side effects include: dry mouth, nasal congestion, constipation, miosis, dermatological reactions, photosensitivity, jaundice, hypotension, increased appetite and weight; very rarely, mydriasis, agranulocytosis, extrapyramidal symptoms. *Contraindications:* Comatose states or in the presence of excessive amounts of C.N.S. depressants.

For complete prescribing information, please see *PDR* or available literature.

SK&F *Smith Kline & French Laboratories*



"Leakers" are ampoules with minute imperfections in the seal. You can't readily see the flaw, and often it's so small that liquids won't even drip through; but microscopic contaminants can slip in to render the contents nonsterile and potentially dangerous. ▪ Detecting "leakers" is the job of the vat and the blue dye. ▪ Sealed Lilly ampoules are placed in baskets, submerged in a vat containing methylene blue, and subjected to a vacuum. If there is an imperfect ampoule in the lot, the liquid is forced out. When the vacuum is released, the blue dye rushes in. ▪ With dye as the spy, elusive "leakers" are quickly spotted and rejected . . . another of the many controls that add immeasurably to the quality of the finished product.

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Scientific PAPER

HOW AND WHY OF PERIPHERAL VASCULAR DISEASE

Presented at Annual Meeting of . . .
South Dakota State Medical Association
June 11, 1963

By

Frederic B. House, M.D.
Ann Arbor, Michigan

The definition of peripheral vascular disease may include a wide variety of conditions affecting many vascular systems in the body. The least definition includes diseases of the arteries, veins and lymphatics in the extremities, and this one I am inclined to use for our discussion. I will further limit my remarks to description of techniques and programs in physical medicine devised for the management of chronic venous disease in the lower extremities and for conditions related to arterial occlusive disease in the lower extremities, especially in the older age group. I believe these two categories represent the greater number of patients which are seen in practice today.

The physiatrist uses many techniques, some old and some new, in improving the function of artery, vein and lymphatics. In my own practice, the decision as to exactly what type of treatment is used is often a prerogative of the clinician in charge of the patient. My role then may be only to help administer the treatment in such a way that it is most effective. The clinician may work directly with a therapist in determining treatment and the physiatrist's role then is that of seeing that the type of treatment is available and that the therapist uses it properly.

This relationship of clinician, physiatrist and therapist has always interested me, and recognition that the relationship varies with various cases is of first importance. In peripheral vascular disease, as in many other conditions, patients concerned are usually

ones with more than one disease or more than one manifestation of the basic vascular abnormality. It is important that the physician who knows the most about the whole patient be concerned about the type of treatment administered to his extremities.

Venous Disease

Acute problems in disease of the veins are seldom seen in a Department of Physical Medicine and Rehabilitation. If they are, it is simply for the purpose of helping with the nursing technique of applying heat to the extremity. In more chronic conditions, such as persistent swelling, a physical therapist can be of great assistance. Manual massage can be depended upon to mobilize fluid in such an extremity, but more recently we have made use of a pressure boot. This is essentially the reverse of the old negative pressure boot known as Pavex, which was used in arterial insufficiency in the legs. The pressure boot we use is made by Jobst in Toledo and may be known to you. Intermittent positive pressure up to forty millimeters of mercury per square centimeter is applied for several hours daily until the edema is reduced. The patient is then fitted with a tailored elastic stocking or sleeve in order to maintain the gains made.

Some of our surgeons use this treatment. Others believe rest and elevation do the same work.

In the presence of stasic ulcers, the physical therapist has several things to offer which are effective. An ulcer on the leg may respond to whirlpool treatment. The water, through agitation, produces a debridement without sacrifice of healthy tissue. In addition, we frequently use ultra-sound to the ulcer margins and believe it stimulates healing. It is easily applied by the therapist while the leg is in the whirlpool. Finally, the use of ultraviolet to ulcers as a bacteriocidal agent has been an accepted form of treatment by our clinicians. This makes use of the ultraviolet rays produced by a cold quartz generator which have a limited spectrum of bacteriocidal wave lengths and little or none of the erythema-producing or tanning rays.

In utilizing the treatments noted for venous disease, I wish to emphasize the value of the services of a well-trained physical therapist. The therapist will direct a program of treatment with the patient receiving attention once or twice daily. The therapist will see that all parts of the program are regularly administered and will persist in the treatment until maximum benefit is reached. This combination of physician working with the therapist makes one persist in a logical course of treatment and be less apt to change courses at the least discouragement.

Arteriosclerosis Obliterans

Occlusive arterial disease in the lower extremities may require a wide variety of surgical and medical treatments, depending on the exact pathologic picture. When conditions associated with emboli are excluded and conditions suitable for reconstructive vascular surgery are excluded, one is left with the common problem of arteriosclerosis obliterans, a part of generalized arteriosclerosis. It is this group, frequently older patients, who are treated by physical medicine. They may be seen for management fairly early in their course or later, after an amputation has been done. Management of this group is a continuous effort and can be considered under pre- and postamputation management.

Pre-amputation Management

As soon as a diagnosis of arterial insufficiency is made, the physician should recognize that his patient has a chronic disease. The management of this may vary from the management of acute processes in several ways. The chronic process is one that is progressive. It is associated with a functional loss or disability and it requires the patient to make some situational adjustments in his home or work to accommodate it. Our duty then is (1), to slow the process; (2), to diminish the functional loss by training in new ways of action; and (3), to provide the patient with help in making his situational adjustment. In our hospital program physical medicine and rehabilitation has a great deal to offer in all three categories. We accomplish the third part of chronic disease care through the use of a whole team, including social worker, psychologist and vocational specialists. A lesser program might use only a social worker or a rehabilitation nurse, or, lacking these, the doctor himself working with the family. No matter who does it, it must be done in order to have a successful chronic disease program.



Donald G. Bachman, A.C.S.W., Medical Social Worker for the Department of Physical Medicine and Rehabilitation, interviewing a new referral prior to presentation to the Amputee Conference. The Social Worker will follow this patient through his amputee program and help solve any non-medical problems that may affect the patient's progress.

The first part of chronic disease care applied to arteriosclerosis obliterans is to increase arterial blood flow to its maximum. This, all will agree, is the only way to slow the pathologic process. Two physiologic principles are used: one is to use the effect of increased tissue metabolism to bring a maximum amount of blood to the impaired extremity. However, local heat should never be used to increase metabolism. Heat in this situation may many times initiate an irreversible gangrene where a reversible situation existed before. However, the key to using increased metabolism to bring more blood to the extremity is in an active exercise program. The exercise must be titrated against symptoms, usually pain. When under the regular guidance of a physical therapist, it will be most helpful and can be followed at home after instructions are given. Such exercise may include walking, but more specifically, conditioning exercises such as coming up on the toes, straight leg raising, and isometric muscle setting. This type of program, followed faithfully day after day, will do more than most drugs to prevent the rapid deterioration of the extremity.

The other physiologic principle that is employed in a good physical medicine program for this condition is the fact that extremities are intimately associated with the body temperature control mechanism. This fact has been shown by many workers and was emphasized as part of the investigation of clothing that took place during World War II. When the normal body temperature is exceeded for any reason, the vessels in the extremities open up in order to counteract this change through radiation. Of course, this reaction is most evident in a person with soft vessels and active sympathetic nerve control.



This 68-year-old patient at time of final check-out of a conventional B-K prosthesis for the right leg. She hoped to get back to her garden and was given the more stable conventional leg with thigh lacer. She will continue to use the cane for an indefinite period of time.

However, even in the oldster some benefits can be expected from this method up to the time of irreversible tissue changes.

Two parts of management are dictated by this physiologic principle: First, the patient must dress warmly. Actually, I ask patients to dress so they are too warm. This usually means wool clothing, not only socks. They should keep the trunk warm so the vessels in the legs will dilate in attempts to dissipate heat.

Reflex Heating

The other part of management dictated by this principle is that of reflex heating. Again, we should remember to avoid heat to the involved extremity, but use heat on the trunk. This can be done as a home procedure with electric blankets, hot water bottles, or any source of heat. As a hospital procedure under the direction of a physical therapist, Hydrocollator packs, diathermy, or infrared may be used. I instruct the therapist to take a careful oral temperature before and after treatment, and make sure that the oral temperature is at least 1°F. more after heating than before and at least 99° after treatment.

This management, including trunk heating, 24 hours of adequate clothing and active exercise titrated against symptoms, in my opinion, is a logical, effective management and should be used as an adjunct to any other medical or surgical procedure used in this pre-amputation period.

Postamputation

The patient who reaches the point where pain is intractable or tissue changes irreversible will most likely be subjected to amputation. This is only a step in the management of this condition that we have already identified as a progressive one. Amputation is not the end of our offerings but only marks the beginning of a new phase of management.

In St. Joseph Mercy Hospital, we manage amputees by means of an Amputee Clinic or Conference, as recommended by the Vocational Rehabilitation Administration and other agencies interested in this problem. This group is basically the physician, the physical therapist, and prosthetist brought together so as to cooperate in all phases with the evaluation of the patient, prescription of the prosthesis, and training in its use. In our work we find the services of the medical social worker, as part of the evaluation team and as a family counselor, invaluable in managing the amputee. The oldster, who has been thinking in terms of complete recovery for years, may find himself confronted with an inescapable fact when he can see the leg is gone. The use of non-medical, professional help here can make a difference between a success and failure.

I would like to call your attention to the large number of successes in the older age group. We are in the habit of putting prosthesis on oldsters in their late 70's and 80's with success. We have had three bilateral lower extremity amputees in our program during the past year who were past 75.

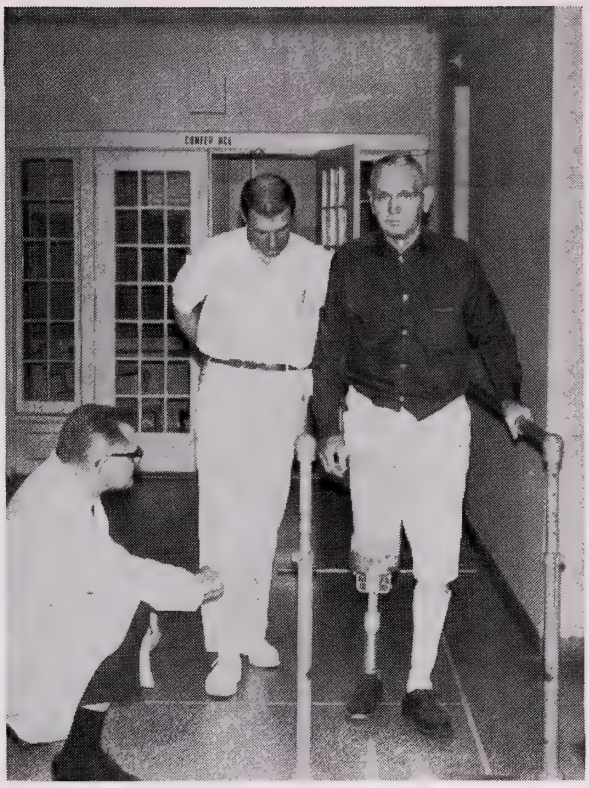
Level of Amputation

The first step in the amputee program is the establishment of the site of amputation. This is primarily a surgical judgment based on the status of the circulation. Our amputee conference is sometimes called on to help make this decision and usually puts the problem back to the surgeon, asking for as much

length as is consistent with healing. For practical purposes, oldsters with arteriosclerosis obliterans do not tolerate metatarsal amputations but some diabetics in the older age group might. From our experience, the level of practical consideration begins 7 inches below the tibial tubercle. If a higher level is required, we would like some of the knee joint, even if only an inch of tibia can be saved.

If findings preoperatively or at the time of surgery indicate an above-knee amputation, then we like as much length as possible. A knee disarticulation will give more stability than anything higher, and the only disadvantage is a possible discrepancy in the level of the knee joint, comparing the prosthesis with the remaining leg.

Most above-knee amputations in the older age group are done at mid-thigh or lower. This will give a satisfactory stump with enough lateral stability to allow most oldsters to walk, although some aid, such as a walker or cane, will probably always be required. If the level required to allow healing goes higher so that 5 inches or less of the femur remain, then we have, from the prosthetic point of view, essentially a hip disarticulation and these patients in our experience are not candidates for prostheses, if their basic pathology is arteriosclerosis associated with senility.



This 64-year-old patient with A-K amputation on right had a prescription written on November 20th for an A-K prosthesis with quadrilateral partial suction socket, constant friction knee and single axis ankle with wood foot. He is shown on December 18th, demonstrating the prosthesis on the jig to the surgeon and therapist. He finished his training in February. Some delay was experienced due to emotional adjustment problem which was handled by the psychologist.

Preprosthetic Program

The physical therapist should begin his exercise program preoperatively. It is absolutely essential to avoid a contracture in the hip if independent ambulation is to be obtained. Furthermore, we must keep these patients in condition by upper extremity exercises during the healing phase. Wrapping of the stump to obtain maximum shrinkage and proper shaping of the stump is an important part of the preprosthetic program.

When other conditions allow, the patient is up in the parallel bars and is taught to walk on crutches. If he can walk on crutches, he has motivation, strength in the uppers, and enough balance to allow a prosthetic gait.

Amputee Conference

The amputee is presented to the Amputee Conference when he is ready for a prosthesis. This depends on many factors and the decision is usually made by the attending surgeon. Although the attending surgeon may express specific ideas concerning the prosthesis, he usually expects the Conference to prescribe the limb. Our Conference has representatives from orthopedics, general surgery and physical medicine and rehabilitation in attendance.

There are some choices to be made and consideration is given to the patient's age, general health and strength, soundness of the stump, and his expected activity. The Conference will follow the patient through his training program and will order all adjustments made in the leg. Each patient is presented to the Conference at least three times for prescription, for observation on the adjustable leg, and for final check-out. He may be seen oftener if the physical therapist working with him needs help.

Below-Knee Amputations

The choice in case of below-knee amputees

is usually between a conventional leg which includes a carved wooden socket, external knee joints, and a thigh lacer, and a patellar-bearing prosthesis with a molded socket and no encumbrance above the knee except for a light weight suspension over the top of the patella.

The leg with thigh lacer and knee joints definitely offers more stability and the patellar-bearing is lighter and more easily applied. We have frequently taken the oldster whose expected activity is to take care of his own toilet needs independently and have given him a patellar-bearing prosthesis and a walker. This has been most successful in many cases, and recently an old lady of 80 was so successful she walked off without either the walker or a cane. If the patient is one who may get back to some work, such as a farmer, the conventional leg with thigh lacer is still the leg of choice in our experience.

Above-Knee Amputations

The patient with an above-the-knee amputation will, of course, always use external knee joints. It should be noted that stability can be built into the device so that standing at rest requires no muscular effort to control the knee. The person with a knee disarticulation can be fitted with a very stable device, utilizing the end-bearing quality of his stump. He will, as stated, have a discrepancy in the level of the knee joint as compared to the remaining leg. This cosmetic loss is of minor importance.

Amputations at mid-thigh or longer are far more common in the older patient than are knee disarticulations. In these cases the decision is usually between a suction socket and a socket without suction, suspended by a pelvic band or belt. The suction socket has many advantages in convenience but it requires some physical effort in the head down position to apply which some older patients cannot tolerate.

The advantage of bringing several people concerned into the activity of prescription writing seems obvious. The doctor who knows most about the patient and the strength of his tissues, the prosthetist who knows most of what can be obtained from the artificial devices, and the therapist who will have to train the patient make a logical team for the prescription of a suitable prosthesis. One can, with great advantage, add to that the services of a social worker and a psychologist whose services further assure a successful prosthetic program. You may have facilities for amputees available in your hospitals. If not, there should be some attempt to have such a service in a few of your major, general hospitals.

Summary

I have presented some of the ways in which physical medicine and rehabilitation can be of help in managing the patient with peripheral vascular disease. Emphasis has been directed towards the role of physical medicine and the physiatrist as an aid to the practicing clinician.

Hydrotherapy, ultrasound, and ultraviolet have been described as the most useful techniques in management of chronic venous disease with or without associated intractable ulcers.

Reflex heating and graded exercises have been described as the treatment of choice in the chronic arterial insufficiency of the lower extremity.

A type of amputee program adaptable to the general community hospital of moderate size has been described.

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2. "Private Practice and Rehabilitation," F. B. House, M.D., **Journal of Michigan State Medical Society,** Vol. 61, pp. 565-569, May, 1962.

BIOGRAPHICAL SKETCH

Frederic B. House, M.D., F.A.C.P., Diplomate of American Board of Physical Medicine and Rehabilitation, age 48, Medical Director, Department of Physical Medicine and Rehabilitation, St. Joseph Mercy Hospital since 1947, Chief of Staff 1960-1962. Dr. House is Consultant in Physical Medicine and Rehabilitation for St. Joseph Mercy Hospital in Pontiac, and Head of Physical Medicine and Rehabilitation in the member hospitals of the Peoples Community Hospital Authority in Wayne, Michigan. He received the degrees of A.B. and M.S. in physiology in addition to M.D. from the University of Michigan. He completed a residence in internal medicine at the Cleveland Clinic before working with Dr. Walter Zeiter at the Cleveland Clinic and Cleveland Rehabilitation Center to satisfy the requirements for the American Board of Physical Medicine and Rehabilitation. He is a Fellow of the American Academy of Physical Medicine and Rehabilitation, Michigan Rehabilitation Association and other professional societies.

St. Joseph Mercy Hospital is a 574-bed general hospital. The medical staff consists of 195 medical doctors engaged in private practice. The hospital serves the city of Ann Arbor and the surrounding area as well as attracting patients from greater distances who come for special medical care. All

(Continued on Page 27)



PINWORM MESENTERIC GRANULOMA AND PINWORM PERITONITIS

CASE REPORT

by

F. D. Leigh, M.D.,
H. L. Saylor, Jr., M.D.
Huron Clinic, Huron, South Dakota

The following case of an adult female is reported because to my knowledge it is the first one of this type that we have seen here at the clinic since its beginning in 1918.

Case Report

B. T., age 32, was seen at home on January 16, 1963, stating that she was awakened at 5:30 a.m. by a generalized abdominal pain. She had felt perfectly well upon retiring the night before. She felt some nausea, but vomited only once. There was no diarrhea. The initial pain was colicky in nature and generalized. The pain gradually became worse and began to localize in the right lower quadrant of the abdomen. She was seen at home at 8:30 a.m. and hospitalized.[1]

Her family history was non-contributory. As to her personal history, she had normal deliveries in 1953, 1954, 1956, and 1958. In 1953 she was treated for an acute mediastinitis. In 1955 she was seen for a pain in the right upper quadrant. Laboratory work was normal as well as a gallbladder series and a gastro-intestinal series.

In 1959 she was seen for a low back pain of three months duration. A repeat gastro-intestinal and gallbladder series were reported normal. In 1960 and 1962 she was given routine physical examinations which were both within normal limits. However, on the last two examinations she did complain of vague lower abdominal discomfort though the pelvic and Papanicolaou smears

were normal. At no time was a worm smear taken.

Upon admission to the hospital her temperature was normal. Blood pressure was 110/70, respiration 20, pulse 84. The physical examination was normal except for the following. "ABDOMEN — flat; liver, kidney and spleen are not palpable. No palpable masses or rigidity, but there is definite tenderness in both lower quadrants, especially the right. There is rebound tenderness referred to the right lower quadrant. PELVIS-INTROITUS—normal. VAGINAL VAULT—normal. CERVIX — negative. UTERUS — normal and small. ADNEXA — Left adnexa not tender. Right adnexa slightly tender. There is no tenderness on moving the cervix."[1]

Urine examination was negative, both catheterized and uncatheterized. Complete blood count was normal except for a white blood count of 16,800. A KUB gave the following impression: "No acute pathology is seen in the abdomen."[2]

A diagnosis of acute appendicitis was made, and Dr. Saylor of our surgical department was called in on consultation.

The patient was observed until 5 p.m. the same evening. The pain subsided somewhat with Demerol* 50 mgm. q.4.h., p.r.n., but would return. There was no vomiting or diarrhea. Localized tenderness became more pronounced in the right lower quadrant.

Surgery was performed at 5:30 p.m. with the following operative report.

"On opening of the peritoneal cavity there was rather marked peritoneal reaction with rather straw-colored fluid and what appeared to be some nuisance material. Complete abdominal exploration was carried out. The pelvis was normal with no evidence of any ovarian tumor. The remainder of the abdominal exploration including all the organs that were palpable did not reveal any pathology except for a lesion in the omentum, which was removed."

"Under general anesthetic, a right lower quadrant transverse incision was made. Abdominal exploration was carried out. The lesion in the omentum was excised and appendectomy by inversion of the phenolized stump by purse-string. A specimen of the fluid was taken for culture, cellulose study and to be spun down for a cell block. Closure of the abdominal wall in the usual manner with chromic going to the peritoneum and fascia, reinforcing interrupted sutures for the fascia, plain to the fat and skin closure with silk. No drains. Patient's general postoperative condition was good."[3]

The patient's postoperative course was uneventful. The big surprise came when the pathology report was returned, as our initial impression was that of a malignancy. The pathological diagnosis was: "Mesenteric fat. Pin worm granuloma. Fluid from abdominal cavity, negative for malignant cells. Appendix vermiformis."[4]

Needless to say, this report was received with relief and amazement.

The patient was given Povan† tablets ‡5 on the third postoperative day. The remainder of the family were treated simultaneously with appropriate doses of the same drug (husband and four children).

The patient's postoperative course has been completely uneventful and at the present time she is asymptomatic. On January 30, 1963 rectal and vaginal smears were negative for ova. On February 7, 1963 the smears were positive so another course of Povan† was prescribed. Rectal smears on March 8, 1963, March 18, 1963, March 28, and May 10, 1963 were negative. The patient states at present that she has "never felt better in years."

The remainder of the family have had three consecutive perianal smears at weekly intervals which have been negative.

Discussion

Pinworm disease has been known since ancient times, and is world wide in distribution.[5] The common synonyms for this disease are Enterobius vermicularis, Oxyuris vermicularis, or seat worm disease. It is estimated that 45% of all school children are infected at some time.[6-7]

The life cycle is quite simple as the eggs are deposited by the gravid female in the perianal and perineal regions. These are transmitted to the mouth and swallowed. The ova are very resistant to temperature changes and chemicals and can remain viable for weeks or months. Normally the fertile eggs remain infective in the average environment

* Demerol (Winthrop-Stearns)
† Povan (Parke Davis)

for at least nine days. The eggs hatch in the duodenum and pass to the colon and mature. The adults attach to the bowel wall, and the cycle is completed. The entire life cycle takes about two weeks. The adult worm may penetrate the mucosa and encyst in the submucosa of the large intestine or appendix. The symptoms are those of a mild catarrhal inflammation of the bowel wall, and the inevitable perianal or perineal itching, especially nocturnal. In 2% of the cases they will cause an acute or subacute appendicitis.[5]

"Erosion of the mucosa of the cecum may expose sympathetic nerve endings and cause nervous reactions. Particularly in children such difficulties may result in manifestations of nervousness, insomnia and even epileptiform seizures. However, the more serious difficulties ordinarily arise from the pruritis ani produced by the migrating females, which provokes scratching of the irritated region, resulting in hemorrhage, eczema and pyogenic infection of the anal and perianal regions and of the perineum. Their presence in numbers within the rectum may cause violent rectal colic."[5]

"Several cases are also on record where the gravid females have migrated up the vagina and uterus into the Fallopian tubes and have either become encysted there, or have wandered out into the peritoneal cavity, and have become encysted on the peritoneum. In the tubes they may produce symptoms of salpingitis which may continue for years."[5]

The diagnosis is made from stool studies, but eggs are only found in a fecal specimen in 5% of the cases, and these eggs are usually infertile and immature.[8] The most common method of diagnosis is from the perianal Scotch tape swab method. Adult worms are found in the stools after an enema.

The prognosis is usually good. Prevention is accomplished by scrupulous personal and group hygiene, plus treatment of all infected persons simultaneously.

The treatment is as varied as there are doctors treating this disease. Gentian violet is specific. Oxytetracycline (Terramycin)* has as high a cure rate as gentian violet provided all infected persons in a group are treated simultaneously and complete the full course.[8]

Probably one of the most effective and harmless drugs is piperazine citrate (Antepar)† (Pipizan)°. We have been using pyrvinum pamoate (Povan)‡ which is supposedly as effective as the above, but also has the added advantage of only one dose instead of the daily dose for a period of one week.

Summary

This has been a presentation of an interesting and unusual case of pinworm mesenteric granuloma and pinworm peritonitis with a preoperative diagnosis of acute appendicitis, a postoperative diagnosis (reserved) of possible peritoneal malignancy, and a final diagnosis of pinworm mesenteric granuloma and pinworm peritonitis.

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3. REPORT OF OPERATION, H. L. Saylor, Jr., M.D., Huron Clinic, Huron, South Dakota.
4. TISSUE EXAMINATION, J. L. Vose, M.D., Pathologist, Saint John's Hospital, Huron, South Dakota.
5. **CLINICAL PARASITOLOGY,** Craig and Faust, pp. 287-291.
6. **THE COMPLETE PEDIATRICIAN,** Davison and Leventhal — 7th Edition, p. 32.
7. **MANSON'S TROPICAL MEDICINE,** Manson-Bahr, 12th Edition, p. 919.
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* Terramycin (Chas. Pfizer & Co.)
† Antepar (Burroughs Wellcome & Co.)
° Pipizan (Merck Sharpe & Dohme)
‡ Povan (Parke-Davis)

PERIPHERAL VASCULAR DISEASE—

(Continued from Page 24)

qualified medical doctors in the area who are in private practice use this facility. Department of Physical Medicine and Rehabilitation is a member of Association of Rehabilitation Centers. The hospital is owned and operated by the Detroit Province of the Sisters of Mercy.



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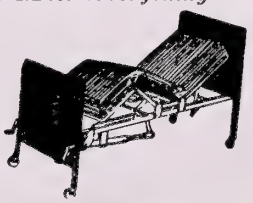
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JUNE 21-25 1964

◁ ◁ ◁ See JAMA May 9 for complete scientific program — Forms for advance registration and hotel accommodations ▷ ▷ ▷



TRIBUTE AND FAREWELL TO JOHN

For many years, the South Dakota State Medical Association was a very loose and weak affair, existing chiefly as a sop to the principles of organized medicine, and to give questionable honor to some members by electing them to office in the association.

In 1946, the House of Delegates authorized the hiring of an Executive Secretary to strengthen the unity of the medical profession in South Dakota, and directed the Council to interview candidates for the job and to employ one. From the applicants, one was selected, who was believed capable of doing the work at a salary our meager membership could afford.

From his humble beginning of organization and welding the association into a potent force for the improvement of the practice of medicine in this State and for the welfare of our individual doctors, the progress has been continuous to the present time, and there is every reason to believe that this progress will continue into the future.

Perhaps no one man can be given all the credit, for there has been a dedication of effort by the members and the employees to bring this about; but there is one man who has been largely the activator of the program for progress. He has worked constantly to do what the association directed him to do, and has done nothing without the approval of the officers and delegates.

That man is John C. Foster, who has left us for his own good reasons. Those who knew Johnny well, and those who gave him his orders, know of the faithfulness and ardor with which he served and of the success and prestige he has brought to the profession in South Dakota; of the welding together of the membership into a potent force; and of the benefits he has managed to bring to the Association and the individual physicians.

So, Johnny, we wish you every success in your new effort which takes you away from us, but offers you rewards with which we are unable to compete. You have left a monument to yourself in the present condition of our Association, its activities, its Journal and its building. May you and your family find happiness in your new location and your new work, and carry with you fine memories of us as we retain of you.

L. J. Pankow, M.D.

LETTER TO THE EDITOR

101 Prospect Street
Vermillion, S. D.
February 7, 1964

Dear Sir:

I received the Medical Association tuition scholarship for this school year. I am writing to thank your organization for making this financial help available to me.

I hope that by my work at the University during this year I may prove worthy of this honor. (It certainly has been a struggle so far.)

Thank you, again.

Sincerely,

Barbara Schulte
Vermillion, S. D.

OB-GYN BOARD WILL MEET

The Part II (oral and clinical examination) for all scheduled candidates is being conducted by the entire Board at The Edgewater Beach Hotel, Chicago, Illinois, April 27 - May 2, 1964.

Special Notice

As of May 1, 1964, the office of the Secretary-Treasurer of this Board will be located at —

100 Meadow Road
Bullalo 16, New York

Dr. Clyde L. Randall replaces Dr. Robert L. Faulkner in assuming the duties of this office as of the forthcoming annual meeting of the Board.

New and reopened applications and requests for re-examination in 1965 will be accepted in the Office of the Secretary on or before July 1, 1964 (see above notice for correct mailing address).

Current Bulletins outlining present requirements, and application forms may be obtained by writing to the Office of the Secretary. Applicants are urged to familiarize themselves with the current rules and regulations.

Diplomates of this Board are requested to keep the Board office informed of their current address.

M. W. PANGBURN, M.D.

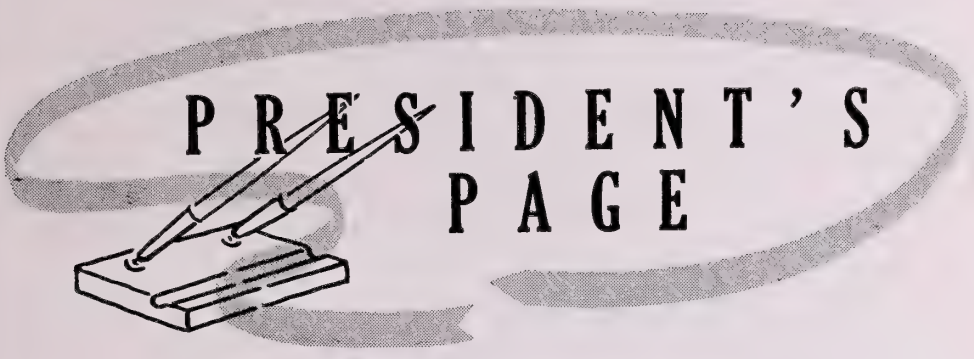
1896—1964

M. W. Pangburn, M.D., retired Miller physician, passed away March 12th in a Houston, Texas, hospital. Dr. Pangburn had undergone surgery on an artery in his neck, but a kidney operation had been cancelled due to several heart attacks.

Dr. Pangburn was born August 8, 1896, at Faulkton, South Dakota. He later attended the University of South Dakota, and in 1924 received his M.D. degree from Rush Medical School. He practiced at Scotland, South Dakota, for three years before opening a practice in Miller, where he served for more than 30 years.

He was a member and past president of the Huron District Medical Society, a member of the Sioux Valley Medical Society, the South Dakota State Medical Association, and the American Medical Association.

His survivors include his widow; one son, and three daughters.



Dear Fellow Members:

Since this page serves as a sounding board for our State Society I want to utilize it today to bring a problem to you which we all face. Organ transplantation has moved from the laboratory to the operating room with many questions — both scientific and social — still lacking an answer. Since most of us serve as family physicians in one capacity or another we now must equate some of the facts and relate them to our patients since they, too, are now involved in organ transplantation. It may not be too long before you may have to help solve a family's dilemma as to whether or not Brother John should have a Baboon's heart transplanted into his thoracic cavity.

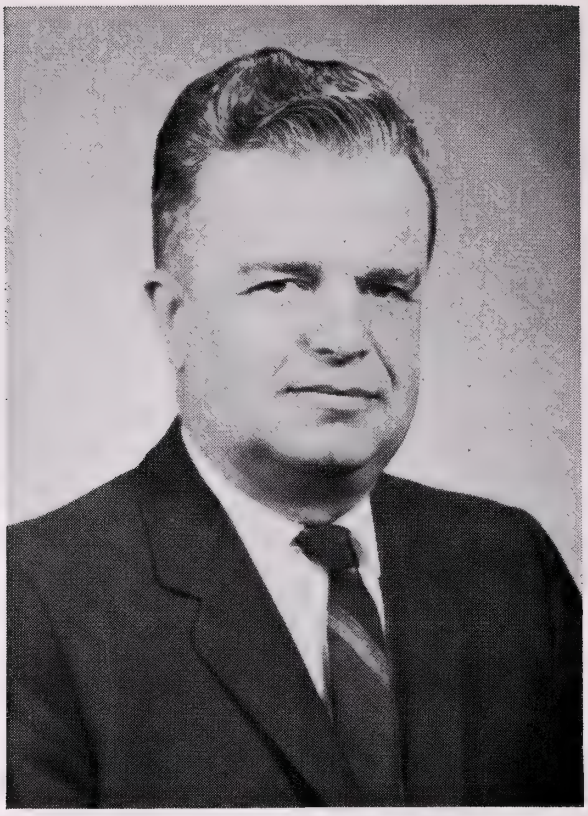
Recently this became a problem for some of us here in South Dakota in the case of a renal transplant. Believe me I was busy trying to counsel a family on this end while the Transplant Group in Denver was insisting that someone in the family give a kidney to this patient. They made it clear that they felt it was a moral responsibility of the family for someone in it to give a kidney. They made it sound that this was an answer and that it was a therapeutic measure commonly used. You can imagine the dilemma this produced for this family. Some of our Psychiatric Colleagues may have some answers that I didn't have but my counsel to this family was that this was still highly experimental and the results were still an issue of doubt. I felt that they should obtain a donor kidney from people who were willing to give for other reasons than family ones. The result was that the kidney was obtained from a non-family donor and a whole family was disrupted. I am certain that some members of that family do not speak to other members.

The question is did I counsel this family correctly? I felt that the Denver group, as good scientists, had erred in their presentation of the problem to the family — an error in not knowing how this issue could split a family apart. I trust that this little problem may be of interest to you because you, too, may soon be faced with a similar one. How are you going to solve it for the families you counsel? I would appreciate your response to the question in the form of letters to our Editor.

Do not misunderstand. I am interested in Medicine's proceeding with organ transplantation because I feel that it will benefit our patients in the future. I merely feel that perhaps we may overlook what it can do to families when we zealously demand that some one of them donate the organ in question.

Fraternally,

Robert H. Hayes, M.D.



John C. Foster

A TRIBUTE

To John C. Foster, Executive Secretary of the South Dakota State Medical Association, and Business Manager of this Journal.

Although John has left South Dakota for a new position as Executive Director of Arizona Blue Cross and Blue Shield, still in the minds of many of us he will always be a part of the medical profession in South Dakota.

To know the man, and understand his devotion to the profession and the organization which he so untiringly worked for, was, in itself, an inspiration.

To attempt to list all of the allied organizations of which he was a part, or to list John's accomplishments during his years with the Association, would be next to impossible.

The staff of the South Dakota Medical Service, Inc., the South Dakota State Medical Association, the South Dakota Board of Medical Examiners, and the Journal of Medicine and Pharmacy, along with the doctors of South Dakota would like to say:

"Thank you, Mr. Foster, for all you have done for us."

HOUSE BILL NO. 511

EDITOR'S NOTE: The following is a copy of House Bill 511, which passed the legislature during the last session. Inasmuch as the law, effective July 1, 1964, affects all physicians in the State of South Dakota, it is imperative that all become familiar with its provisions.

HOUSE BILL NO. 511

FOR AN ACT ENTITLED, An Act to make it mandatory for physicians and surgeons, dentists, doctors of osteopathy, chiropractors, and hospital interns or residents, or law enforcement officer, to report certain physical injuries of children; establish criminal and civil immunity from liability of such persons making such report; prescribing conditions under which certain confidential relation privileges may not be claimed; and providing penalty for violation.

Be It Enacted by the Legislature of the State of South Dakota:

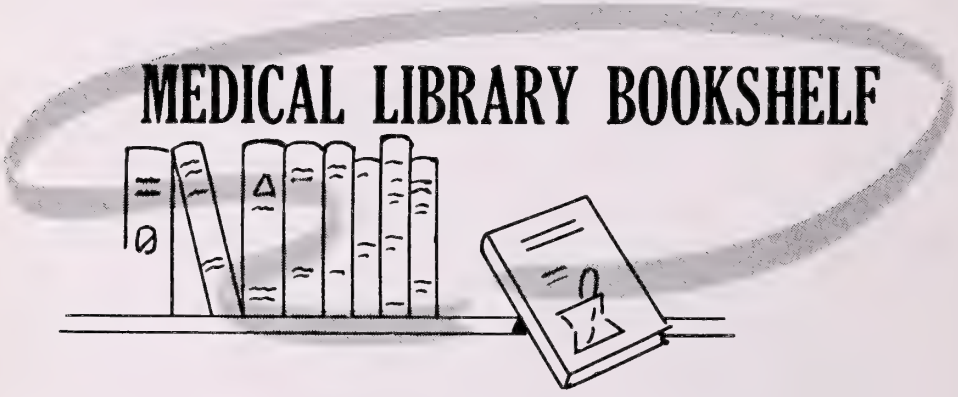
Section 1. Any physician, surgeon, dentist, doctor of osteopathy, chiropractor, hospital intern or resident, or law enforcement officer, having reasonable cause to suspect that any child under the age of eighteen years, examined by such person either for care or treatment, has been starved or has had serious physical injury or injuries inflicted upon him, other than by accidental means, by any person including parent or other person responsible for his care shall report or cause reports to be made in accordance with the provisions hereof; provided, that when the attendance of such persons with respect to a child is pursuant to the performance of services as a member of a staff of a hospital or similar institution, such person shall forthwith notify the person in charge of the institution or his designated delegate, which person in charge of his delegate shall report or cause reports to be made in accordance with the provisions hereof.

Section 2. Such report shall be made orally and immediately by telephone or otherwise to the judge of the county court of the child's residence and forthwith thereafter in writing to such judge. Such report shall contain the names and addresses of the child and his parents or other persons responsible for his care, if known, the child's age, the nature and extent of the child's injury (including any evidence of previous injuries), and any other information that the person reporting believes might be helpful in establishing the cause of the injuries and the identity of the perpetrator.

Section 3. Anyone participating in good faith in the making of a report pursuant to this act shall have immunity from any liability, civil or criminal, that might otherwise be incurred or imposed, and shall have the same immunity with respect to participation in any judicial proceeding resulting from such report.

Section 4. The confidential relation privilege set forth in subsections (1) and (3) of SDC 1960 Supp. 36.0101 may not be claimed in any judicial proceeding resulting from the giving of a report concerning a child's injury or the cause thereof, pursuant to this act.

Section 5. Any person described in section 1 of this act who knowingly and willfully fails to make the reports required of him to be made as set forth in sections 1 and 2 of this act shall be guilty of a misdemeanor.



NEW TEXTBOOKS IN THE MEDICAL LIBRARY

Hoffman, W. S. **The Biochemistry of Clinical Medicine** 3d ed. Year Book Publishers, 1964.

According to the preface this book purposes to "present in a lively and readable manner the important and fundamental biochemical aspects of clinical medicine, so as to help the physician who has no more than usual training in chemistry and physiologic sciences, to understand and apply the available information for diagnosis, prognosis and treatment."

Changes from the previous edition are: chapter on lipids completely rewritten around new themes of lipoproteins and free fatty acids; chapters on proteins expanded to include discussions on serum cellular enzymes and congenital errors of metabolism; much of chapter on kidneys and urine reorganized around newer knowledge of countercurrent exchange and concepts of serum and urine osmolality. However, an old fashioned description of the 24 hour urine and its clinical potentialities has been introduced "by popular request."

New material interwoven in other chapters includes glycogen storage disease, the prediabetic state, plasma insulin concentrations, polyunsaturated fatty acids, jaundice due to inadequate transport, and DNA and self replication.

The author is Professorial Lecturer in Medicine at the University of Illinois College of Medicine and former Director of Biochemistry.

Grollman, Arthur ed. with the new title **The Functional Pathology of Disease** 2d ed. McGraw-Hill, 1963.

The first edition of this book was entitled **The Physiologic Basis of Clinical Medicine.** The editor, Dr. Grollman, is Professor and Chairman of the Department of Experimental Medicine at the University of Texas Southwestern Medical School in Dallas.

The contributions of 27 distinguished specialists survey the field of clinical medicine by systems (e.g. cardiovascular, digestive, nervous) as well as the more general point of view (e.g. metabolism, immunity, infections). This supplies a theoretical background of medical practice that can be applied to the general problems of diagnosis and treatment of disease.

Six completely new chapters have been added: Diabetes Mellitus; Acute Renal Failure; The Central Nervous System; The Hypothalamus and Its Disorders; The Autoimmunity; and Autoimmune Disease.

Because of the death of Dr. John P. Peters, the chapters (2, 3 and 4) on Carbohydrate Metabolism, Lipid Metabolism and Protein Metabolism have been revised by Dr. Grollman, the editor.

Israel Davidsohn, Chairman of the Department of Pathology, and Bengamin B. Wells, Dean of the California School of Medicine, are editors of Todd-Sanford **Clinical Diagnosis by Laboratory Methods** 13th ed. Saunders, 1962.

This is the first time in nearly half a century that this book has had multiple authors. It was decided that this change would offer physicians, medical students and technologists a volume having authority, recency, and one reflecting the rapidly expanding scope of clinical pathology.

The fields of hematology, microbiology and clinical chemistry have been greatly expanded and each now appears as a series of chapters. In addition to the basic chapter on blood, there are separate chapters on blood groups and hemorrhagic disorders. Immunohematology is included as a practical diagnostic tool and a guide to therapy.

Microbiology is dealt with in seven chapters including one on microbiologic methods. A chapter on clinical chemistry is devoted largely to fundamental principles and basic techniques. Various special phases of the field are handled in five new chapters: Water and Electrolytes; Microchemical Techniques in Pediatrics; Tests of Hepatic Function; Serum Enzyme Determinations, and Laboratory Tests in the Diagnosis of Pancreatic Disorders.

Mrs. Esther Howard
Medical Librarian

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Pop's Proverb

If you are satisfied with yourself, you are satisfied with mediocrity.

NEWS NOTES

Harold MacDonough, M.D., a radiologist, has located in Hot Springs. He came from Wilmington, Delaware, where he served his residency.

* * *

F. E. Manning, M.D., of Custer was honored February 21st for his long years of service to the Republican party, to his state and country. The occasion was a Lincoln Day dinner at which U. S. Representative E. Y. Berry was the principal speaker.

* * *

Dr. James Vose, Mitchell pathologist, attended the winter meeting of the American Society of Clinical Pathologists and the College of American Pathologists in February. The sessions were held at the University of Louisiana Medical School.

The following item appeared in Hank Kindler's "Around the Town" column in a recent Sunday Argus-Leader:

"Talking about speakers .. we just recently heard Dr. Eric Mueller, a medical doctor from Tripp, South Dakota, who came here from Germany about nine years ago. This guy . . in my humble opinion . . . was so dynamic . . . so impressive . . . so good . . . that if he were on the Ed Sullivan show on the same bill with Bob Hope, Ella Fitzgerald, and Sammy Davis, Jr. . . . and in the same form that he was that day at Rotary . . . he would stand a good chance of stopping the show. What a politician he would have made!"

We're surely glad Dr. Mueller is on our side!

* * *

Robert D. Bloemendaal, M.D. of Sioux Falls, has been named a diplomate by the American Board of Pathology. Dr. Bloemendaal is in practice with **Dr. Karl Wegner** and **Dr. Richard Weaver.**

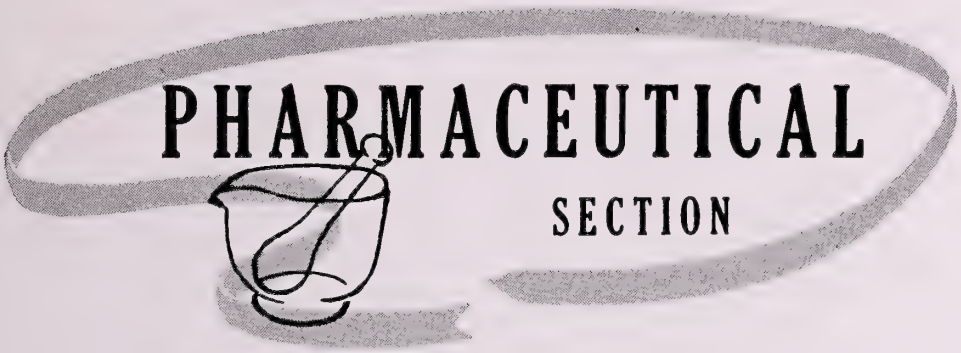
The Annual Meeting of the American Academy of Physical Medicine and Rehabilitation will be held on August 24-27, 1964 at the Statler-Hilton Hotel in Boston, Massachusetts.

Information may be requested from the American Academy of Physical Medicine and Rehabilitation, 30 N. Michigan Ave., Chicago, Ill., 60602.

UROLOGIST JOINS ABERDEEN STAFF

Dr. Karl-Heinz Kurt Kosse, a urologist, has joined the staff of the Aberdeen Medical Center. Dr. Kosse is a native of Germany and worked for the West German government health department until 1959. At that time he went to the University of Vermont for a residency in urology.

A paper prepared by Dr. Kosse, "Microsurgery in Ureteral Reconstruction," was published in the Journal of Urology and read at the 1961 meeting of the American Urological Association in Los Angeles.



GUILFORD C. GROSS, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



IMPACT OF FDA REGULATIONS ON PSYCHOPHARMACOLOGY*

by

James D. Gallagher, M.D.**
Pearl River, New York

It is a pleasure and indeed a privilege to participate in a discussion such as this which has as its objective better understanding. If we are going to solve the unprecedented problems which confront us, each of us has to extend himself to understand the real problems of the other.

Let me start out with a disclaimer. There is not necessarily any greater unanimity of opinion in the pharmaceutical industry on all issues than there is within the community of investigators or even, I assume, within the Food and Drug Administration. It would be rather presumptuous of me to maintain that my comments necessarily represent the industry viewpoint. However, they do represent an industry viewpoint.

At this particular point in time it is extremely difficult to assess the real and permanent effects of recent legislation and regulation on research. We are currently in a period of transition. The present situation is fluid. Uncertainty is the best single word for describing this situation. An uncertain situation is, of course, a poor one — but it does imply hope and I am hopeful. However, my views about the immediate effects — the things which have occurred in the past year as a result of the law and the regulations, must necessarily be critical because the effects to date have not been good ones. We must not criticize just for the sake of being critical, nor is it productive to make pointless protests about things which can't be changed. Our sole objective must be to ferret out our real problems — to penetrate the persiflage — and to work toward solutions. Make no mistake, we must not have a moratorium on criticism — from any of us for any of us — for that would be as retrogressive as the cackling cacophony which has deafened all of us in the past year. I suggest enlightened criticism and for our criticism to be enlightened we all have to accept certain facts and realize that some of these facts — at least for the moment — appear immutable.

Fact Number One

In the past year the industry has felt itself to be uncomfortably in the middle between government and the investigator. The government required us to require certain things of you. (In a sense, regulation by intermediary.) You resented many of these things

*An address before the American College of Neuropsychopharmacology, Washington, D. C., January 16, 1964.

**Director, Medical Research Section, Lederle Laboratories, Pearl River, New York.

— and many of you directed your resentment toward us. There wasn't a thing that we could do about it because, as a regulated industry, we have to comply with the government's laws and regulations or we are out of business. At least for a time it appeared to us that there was an unwillingness of government and the investigator to recognize each other's presence in this problem. Without you — the investigator — there is very little reason for the very existence of either industrial research or the Food and Drug Administration. However, today you can't ignore your other two partners. If there is one clear thing that recent regulatory events has illumined it is the fact that, whether we like it or not, the three of us, government, industry and the community of clinical investigators, are all in bed together. With respect to government, Dr. Lowell Coggeshall of the University of Chicago has said the government's presence is no longer furtive or occasional. It's obvious. It's here to stay. With respect to industry, whether you regard it at best — as a necessary and respected scientific partner, or at worst—as an odious but necessary supplier of compounds — it's here to stay. What we must do is see our relationships to one another in true perspective.

Fact Number Two

We should differentiate those problems which stem directly from the law and those which stem solely from the regulations. Ease of getting relief and the method of obtaining it differ widely between the two. Those things, such as patient consent, which were stipulated in the Kefauver-Harris amendments of 1962 of the Federal Food, Drug and Cosmetic Act, are the law of the land and can only be changed by congressional action. The Food and Drug Administration has no administrative flexibility in this area. However, regulations such as the Investigational New Drug Regulations, can be another matter. These are administrative procedures devised by the Food and Drug Administration as a means of implementing its interpretation of what Congress has asked it to do. These are interpretive. Regulations, therefore, can be amended easier than the law, provided that a substantive case can be made for amendment and that the Food and Drug Administration can do so without defaulting on its charge from Congress.

Fact Number Three

All three of us, government, industry and investigator, do have a common goal whether at the highest level it be the welfare of the patient and the future health of this country or even at a lower self-seeking level. We of the industry don't want to see research impaired. The pharmaceutical industry, perhaps more than any other, depends on research for its very existence. You, the clinical investigator, don't want to see your careers — your chosen profession — restricted. I am confident that the Food and Drug Administration does not want to be in the untenable position of extinguishing the very thing it is charged with protecting. So, we agree on the goal — preservation of research — now if only we could agree on the means.

With these points in mind, let's examine what has happened to research in the past year. There is no doubt in my mind that 1963 was a year of substantial deterrence of research both in industry and in the investigative community at large. Certainly a portion of this recession is temporary — but we cannot confidently say that all of it is temporary.

You can speak more knowledgeably about your own fields than I. But, from my associations with some of you and with investigators in the various other fields in which we have interests, I know that the impact of the regulations has not been universally salutary.

These contentions are borne out by Dr. William Kirby's recent report to the Association of American Medical Colleges. The report, as you know, covers the survey that he made among our medical schools about the impact of the New Drug Regulations on teaching and research. Fifty-seven per cent of the respondents indicated that the regulations had interfered with their research and this questionnaire was not restricted to those investigators dealing with new drugs. Dr. Kirby points out that research involving new drugs has never been held in high esteem by the medical schools. The inference is that the regulations have aggravated this situation by making drug research even less at-

tractive than other areas of research which beckon to the investigator.

Now, the philosophical intent of the law cannot succeed without the active working support of the aristocracy of the able in drug research, but the initial effect on investigators seems to be one of alienation rather than enlistment. Undoubtedly a certain amount of this is temporary and is due to confusion and misunderstanding which is directly attributable to the manner in which the regulations were conceived and promulgated. The Food and Drug Administration either could not or would not see that this was far more than just another statutory dialogue between government and industry. Investigators are not used to discussing scientific matters in legalese. To the end of clearing away those impedimenta to research which are caused by misunderstanding and confusion, we must develop better direct communication among all of us, but particularly between government and investigator so that we can clear the fog away and get a look at our real problems.

Now, what has been the effect of regulatory action on the industry? In fairness to the regulations it has to be pointed out that the relationships between the industry and the Food and Drug Administration were at a low ebb prior to the issuance of the regulations. The investigations of both the industry and the Food and Drug Administration sparked a worsening of relationships in 1960 which progressed to almost complete deterioration in the ensuing two years. The clearance of new drug applications was definitely protracted and the attendant negotiations were charged with mutual hostility and suspicion. Hence, both laboratory and company sponsored clinical investigations were appreciably slowed.

The issuance of the Investigational New Drug Regulations about the first of January 1963, did nothing to relieve this slow down. They became effective on February 7th. By March 7th — 30 days later — we had to submit a list of everything that was then or had been in clinical trial since August 10, 1962. Anything that had been dropped from clinical trial subsequent to August 10th still had to be reported and a reason given for the termination of trial. We then started on the gigantic task of compiling individual Investigational New Drug Applications for every item that was on our submitted list. These were due in 90 days — on June 7th. However, seven days after the Investigational New Drug Regulations became effective, we were hit with the new proposed regulations which would implement the Kefauver-Harris Amendments. Therefore, while compiling the INDA's we were trying to understand these new proposed regulations. We submitted our truck load of INDA's on June 7th, and on June 20th the final regulations implementing the Kefauver-Harris Amendments became effective.

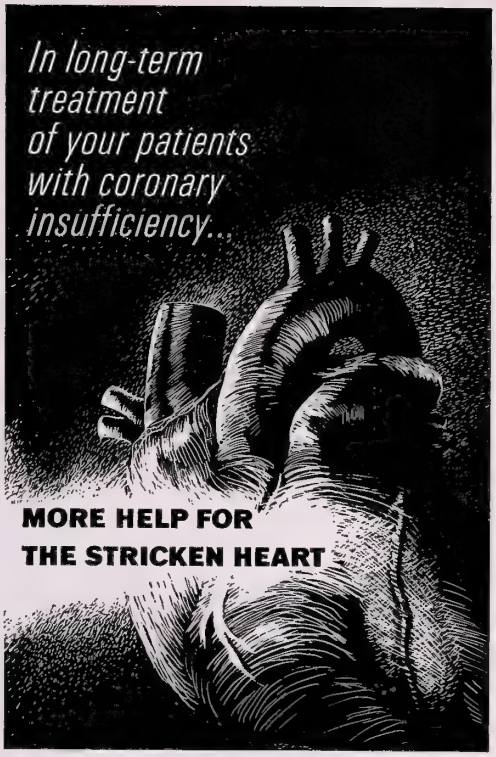
The point of this timetable recital is simply to emphasize that we have spent a good part of this past year in analyzing laws and regulations, interpreting them, educating our people, developing systems and procedures, and doing whatever scientific work was necessary to bring us into full compliance. Of course, we kept research going, but most of our emphasis had to be placed on protecting what we had. The industry as a whole closed out a lot of projects. Undoubtedly, we closed some out prematurely, but we had to use our best judgment considering the circumstances under which we were operating. In terms of only clinical projects—the industry as a whole dropped 600 investigational compounds before the June 7th deadline. Granted a certain percentage of these would have been dropped in any event, but I cannot guarantee you that some, or even one, might not have been significant contributions.

So, a lot of our problems have been temporary and are past. But, what about our real problems — our continuing problems. There is no doubt that, as a result of increased research, testing, and development costs, industry will take long searching looks at all research programs before they are instituted. There will be less inclination to take the long gamble. There will be diminished enthusiasm for programs that have been subsidized by industry in the past, such as those which produce cures for infrequent diseases or for those whose primary importance is in the leads they produce. There will be a de-emphasis on the availability of service compounds, particularly for therapeutic purposes.

Let me amplify this point. A service compound is one in which the company has no research or commercial interest, but which it makes available to qualified investigators at no charge on an investigational basis. These could be anything from rare blood fractions to a modified dosage form of an existing commercial product. This should be fully and clearly understood. The cost of filing the INDA is a big factor — yes, but if actual laboratory work is necessary there is an even more basic reason why we have to curtail these services. It is true that many of us are well staffed, but we are not over staffed. We don't have people sitting around doing nothing. They are working. Also, you don't interrupt research programs easily. It's hard enough to terminate them. Moreover, we always have a backlog of projects in which we are interested — particularly when it comes to animal testing. It's well known that chemists can synthesize compounds faster than biologists can test them. Therefore, the extent to which we can continue service requests will depend in large part on what will be required in an INDA for that particular compound.

The industry takes these positions reluctantly, but it is a matter of survival.

Another basic problem which we share as a result of the regulations and the things which prompted them is an unscientific preoccupation with animal studies. Let me hasten to add, I am not against them. I only urge that we not delude ourselves; that we realistically assess the current usefulness of these studies so that we recognize that we are only creating more problems for ourselves by evading the real issues. I am not talking so much about animal efficacy studies, although who knows better than this group how meaningless they can be in the field of neuropsychopharmacology. This is a research problem and it is still being approached in a research context, but animal toxicity studies are something else again. Since none of us knows anything else to do we continue to do more and more and more studies, while simultaneously admitting that the predictive value for man is often meaningless. We thus continue to creep down the path of meaningless research. Let's face it — we do it for legal reasons — not scientific



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reasons. The problem grows worse daily. As our ability to do good animal studies increases, our ability to find meaningful human correlations decreases. This is our root problem and it is the problem of all three of us. If we are all interested in furthering research, then none of us can evade it or claim that it is the responsibility of the other. If we don't solve it and if we continue our present approach, in time all of our animal facilities will be clogged with meaningless research on a few compounds while meaningful research on the many will go wanting.

I will mention one more problem which I think will be of particular interest to you. A very important factor in the future impact of the regulations on research will be how the Food and Drug Administration evaluates efficacy. The regulation on the face of it is quite reasonable — it contains such words as: experts, substantial evidence consisting of adequate and well-controlled investigation, etc. The industry did not oppose the inclusion of efficacy in the law. However, who knows better than you how difficult it is to get conclusive evidence by objective means in certain areas of investigation, such as neuropsychopharmacology. You don't have the luxury of letting a culture tube and a thermometer make the decision for you. You who have to struggle so often with the subjective know just what an infant discipline clinical research really is — how primitive its techniques really are — and the importance of collateral evidence. I think that we have to differentiate clearly between those situations in which we can clearly conclude by objective means that a compound is inactive and those situations in which we cannot definitively conclude it is active because the objective means are still denied to us. In October of this year hundreds of drugs that were marketed before the Kefauver-Harris Amendments were passed, simultaneously will be subject to FDA efficacy review. Among them are sure to be compounds which are not frankly dangerous, not obviously inert, but also not readily admissible to study by objective methods. However, physicians have found them useful. Needless to say, we have a considerable interest in how the Food and Drug Administration will approach the efficacy problem. I'm not pleading for preservation of the inert — let's just be careful we don't throw the baby out with the bath water because of our mutual ignorance. Let's not forget that our present day methodology for evaluating drugs needs the urgent attention of our most skillful and imaginative people. This is another critical problem which we must share.

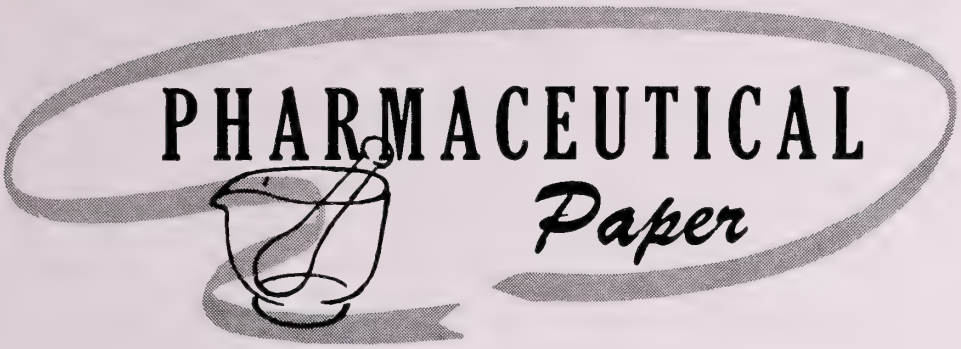
In conclusion, I believe that much of the future impact of the regulations on research will depend on just how wisely the Food and Drug Administration administers them. I said at the outset that there was hope and I believe that. The Food and Drug Administration has acquired some fine people and recently has shown a decided tendency to seek accommodations with industry and investigators that are consistent with its charge from Congress. We salute and support this — and certainly we will meet both of our partners more than halfway. But, instead of saying, let's hope for the best, let all of us find our real problems and get down and work for the best.

W. B. SAUNDERS COMPANY features the following new books and new editions in their full page advertisement appearing elsewhere in this issue:

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DAVID F. JONES, PHARMACEUTICAL STATESMAN*

by George A. Bender**
Detroit, Michigan

"Doctor, you practice your profession, and I'll practice mine!" With those words, young Pharmacist David Franklin Jones launched his new retail pharmacy in Watertown, South Dakota, March 20, 1894. The physician, in welcoming the new pharmacist to the community, had put forth the suggestion that, "of course, you'll want to continue the arrangement made by your predecessor," implying a "payola" percentage kickback to the physician on prescription dollar-volume.

Though his words might have given rise to animosities that would have spelled ruin for the business career that he was trying so hard to get under way, Pharmacist Jones soon earned the professional and personal respect of physicians, colleagues, and the public. He was to serve the people of Watertown and surrounding communities in various professional and civic capacities for just 38 days less than a half century. He also was to serve his profession in many ways, including an active term as president of the American Pharmaceutical Association.

David Franklin Jones was born in a log cabin on a farm at Fish Creek, in LaCrosse County, Wisconsin, near the city of Bangor, on October 26, 1867. David was one of a family of seven children born to John W. and Mary Jones, who were of Welsh descent. David's early life was spent on his father's farm and his early education gained in local schools. He completed his high school work at nearby Sparta, Wisconsin, having paid his own way by working at odd jobs. Following high school graduation, Jones taught a country school near Cashton, Wisconsin, for a time with the object of earning money for further education.

During the time he was teaching, young Jones became acquainted with the village pharmacist, W. H. Brandt. Brandt offered Jones an apprenticeship in a new pharmacy he was opening in Barron, Wisconsin. Jones worked in this store and continued his study for three years. In the fall of 1891, he entered

*Presented before the Section on Historical Pharmacy of the American Pharmaceutical Association, Washington, D. C., August 14-19, 1960.

**Director, Institutional Advertising, Parke-Davis and Co., Detroit, Michigan.

the School of Pharmacy at Northwestern University, Evanston, Illinois, graduating with honorable mention for scholarship two years later.

Following his college career, Jones set about to find a suitable location for a business of his own. He inspected a number of possibilities in North and South Dakota, finally deciding on Watertown, and purchasing the Marshall Drug Company of that city. For a time, he operated in partnership with his brother, E. M. Jones, who later opened his own business in Clark, South Dakota, which he conducted for many years.

During the course of his first year of operation of the D. F. Jones Pharmacy in Watertown, David Jones was elected to the chair of Professor of Pharmacy at South Dakota State College, Brookings. Finding the dual responsibilities too heavy, Jones resigned the professorship at the end of the 1895-96 term, devoting all of his energies to the retail pharmacy. The only move in his career was across the street, from Watertown's Granite Block to the Citizen's Bank Building.

On February 5, 1896, David Jones married Mabel E. Coe, of Barron, Wisconsin. Two children were born to them: a daughter, Alice, who died in infancy, and a son, David, Jr.

Pharmacist Jones early exhibited qualities for leadership beyond requirements of his retail pharmacy. He became affiliated with the American Pharmaceutical Association in 1895, attended most of its conventions thereafter, and served the organization in many committee capacities. He served as a member and an officer of the South Dakota State Board of Pharmacy for 15 years, and also served as president of the South Dakota Pharmaceutical Association, as well as many terms on its executive, legislative, and research committees. He was the first delegate to have been appointed to represent the state association at a national convention; and he was a member of the committee that brought into being the National Association of Boards of Pharmacy. His interest in research led Pharmacist Jones to establish a small laboratory in his pharmacy, in which he experimented, and from which he served physicians, city, and commercial institutions requiring professional or chemical procedures. Further, on several occasions, Jones made material gifts to the Division of Pharmacy of South Dakota State College for research purposes. Among these was establishment of the medicinal and poisonous plants garden at the college. Jones' interest in education and civic matters was not limited to pharmacy. He served on the board of trustees of Dakota Wesleyan University of Mitchell for 15 years, and founded there the D. F. Jones chair in chemistry. He also was a charter member of the South Dakota Academy of Science. In Watertown, he served for three years on the city council; was a vice president and director of the People's Savings Bank; a director and a vice president of the Midland National Life Insurance Company, and a director of the Service Oil Company.

In his pharmacy, Jones proved individualistic. He operated his store along professional lines, emphasizing prescription, hospital, and physicians' service. There were no tobaccos, no soda fountain, no candies, no unrelated sidelines, with the exception of books. His store became almost as well known for its well-selected book stock as for its professional aspect. Jones' philosophy regarding his store was well ahead of his time, for, in 1909, in a paper read before the American Pharmaceutical Association, he said:

"In the first place, I endeavor to keep in close touch with the physician and let him understand that it is my purpose to be helpful to him in all ways possible . . . I hardly think it is necessary to say that I employ skilled help only; that my work is done accurately and scientifically; that I have an excellent prescription library, and that the prescription department is equipped with thoroughness generally . . . I can say from experience that I believe there must be a sensible combining of the commercial and professional interests in the drug store (but) the commercial is likely to over-develop . . . ." Twenty years later, in a paper entitled "The Quality of Service," Jones reiterated his beliefs, saying: "The standing of a drug store in a community, when carefully analyzed, is usually found to be based primarily upon the quality of its professional service. Whether

that service is the product of unsparing ethical accomplishment, or of the postage-stamp (selling) variety, often determines the length of life of the store . . . . There is no reason to believe that to be ethical a prescription pharmacy must withdraw itself into the background, under shadows of legendary cobwebs and herbs of the old-time apothecary. There is no reason why an ethical professional practice cannot be 'merchandised,' without sacrificing its prestige . . . .

"There are many undeveloped openings in the community which might easily add to the pharmacist's income: gasoline, oil, and water analysis; consulting expert in the courts; detection of poisons; and preparation of special apparatus for business houses are but a few of these . . . . Ethical service does not imply labor without reward . . . . He who is in position to offer high quality professional service can command a very satisfactory recompense for his work, and send his clients away well satisfied . . . . He must put a **quality** into his store's service." David Jones knew whereof he spoke — for he often performed each of these services in his professional pharmacy in a city of less than 10,000 population. His services frequently were in demand as consulting chemist or as an expert witness in court cases where chemical procedures or poisons were concerned.

Jones was a firm believer in the practical value of attendance at conventions, both state and national. He frequently voiced his feeling that the value of information gained at such meetings always far exceeded the expense of such trips.

Most of the honors that can be conferred upon a man by his professional contemporaries came to Jones. In June, 1927, the University of South Dakota conferred upon him the honorary degree of Doctor of Science. The following year, Philadelphia College of Pharmacy and Science conferred upon him the honorary degree of Master of Pharmacy. He was elected president of the American Pharmaceutical Association, served in this capacity during the year 1928-1929, and presided over the Association's first convention in his home state, held in August, 1929, in Rapid City, gateway to the famous Black Hills. He also was a member of the committee that arranged for the outstanding pharmaceutical exhibit for the World's Fair held in Chicago in 1933 and 1934.

Despite his labors for pharmacy and for the people of his community, his final years did not treat David F. Jones too kindly. Early days of the depression took their toll upon him economically: a clinic, which he had long served, opened its own dispensary; the bank in which he was a director and stockholder closed, and under state laws he was assessed "double indemnity"; the insurance company was in temporary financial trouble; and South Dakota's farmers, usually experiencing lush harvests, faced a series of drouth years. Jones struggled on, hanging onto his pharmacy and his home, and survived the economic storm. His health suffered, however; and death came to him, February 10, 1944, in his 76th year, resulting from pneumonia complicating a heart condition. His funeral was conducted in the Methodist Church, which he had loved and served for more than 40 years as Sunday school superintendent and board member.





OPPRESSIVE REGULATION — A SLOW BELL

The importance of what drug research means can be highlighted by one fact: 70 percent of the prescriptions written in 1960 could not have been written 10 years earlier — the drugs didn't exist. Oppressive regulation, no matter how well meant, would mean the ringing of a slow bell in the pharmaceutical laboratories. The losers would be the millions, alive and yet to be born, who may suffer from the manifold ills the flesh is heir to. — Editorial in **Carolina Journal of Pharmacy,** December 1963.

* * *

"As a profession, we must learn to stand on our own feet, secure in the knowledge that our education, our professional ability, our professional service deserves recognition and warrants independence. We need and want to cooperate with physicians, manufacturers, wholesalers and the public, but that does not mean we are their puppets. We are willing to cooperate with everyone, but we will not be pushed around by anyone!" — William S. Apple, Ph.D., Executive Director of the American Pharmaceutical Association, November 1962.

* * *

"We can enhance the professional image of pharmacy and move toward making every pharmacy an exclusive health center without committing economic suicide. We can start with ourselves — the pharmacists. We can make our personal appearance, our personal conduct and our personal language that of health care practitioners. We can accept and treat fellow pharmacists as professional associates rather than business competitors. We can accept and treat employee pharmacists as professional associates rather than 'registered clerks' or 'hired help.' We can demonstrate to the public that their health is our prime concern by giving each patient the personal attention and understanding a sick person deserves. We can participate in public health programs and contribute our time and services to them, as the other members of the medical care team do." — William S. Apple, Ph.D., Executive Director of the American Pharmaceutical Association, April 1962.

PUBLIC IS BEGINNING TO ACCEPT PHARMACIES AS HEALTH INFORMATION CENTERS

Compilation of early reports from participating pharmacists indicate that the public is readily accepting the community pharmacist as a source of family health information. Statistics compiled from the November and December returns show that pharmacy patrons have selected almost 40 per cent of the health brochures displayed during the first two months of the study period.

George B. Griffenhagen, Project Administrator, discussed this very point in a recent speech at Wayne State University. He pointed out, "A large number of participating pharmacies reported at the beginning of the program that the public was slow to recognize the health literature as a professional service offered for their personal benefit. At

first many looked at the literature and returned it to the rack; some asked the pharmacists how much the brochures cost or if they were really free . . . .

"It soon became apparent that there was really no reason for us to expect that the public would automatically look for free literature in an environment where they had obtained little or nothing in the past that was free. After all, the rack was often completely surrounded by all types of merchandise which was being sold—not given away."

However, Griffenhagen went on to state, "We continue to be encouraged by the overwhelming cooperation we have been receiving from most of the participating pharmacists in the current program.

"As an example, a note from one of our participants in the Midwest stated 'comment is very favorable among my clientele and I am happy to be part of this important program.' A Southern pharmacist writes 'I am enjoying this project immensely and so are my patrons,' while a Western pharmacist tells us that 'people are beginning to notice the display more and more and are starting to pick up more pamphlets.' From the East comes this response from a participant: 'I note with satisfaction the growing popularity of the rack. People seem to be eager to get literature now that they are fully aware of the nature of the program.' "

Contrary to a report made in the pharmaceutical press (Drug News Weekly, February 26, 1964) the role of the pharmacist as a health communicator has **not** been questioned, to our knowledge, by physicians in any of the 260 participating pharmacies. What was said by Mr. Griffenhagen is that some pharmacists who refused to participate in the national survey gave as a reason the fact that they "feared that physicians will identify such service with counter-prescribing." Not only has this fear proven to be unfounded, but Project Director, S. John Byington, found the attitude of the physicians attending the AMA Clinical Session in Portland this winter favored the program. Byington points out that the comment most often made to him by attending physicians was "It's about time the pharmacists did something like this."

FDA ISSUES BOOKLET ON HEALTH FAKES AND SWINDLES

A catalogue of fakes and swindles in the health field warning the public to beware of "secret" remedies and their sponsors has been issued by the Food and Drug Administration.

The booklet, "Your Money and Your Life," says "Worse than the financial loss is the danger that reliance on some ineffective product will cause delay in getting proper medical treatment."

It estimates that the public spends $1 billion a year on unnecessary or falsely represented products and treatments.

In addition to exposing a number of worthless devices for diagnosing and treating various diseases, the booklet also debunks baldness "cures," no-diet reducing products, wrinkle removers, sea water minerals, and many others.

The booklet summarizes current knowledge about many devices and remedies, among them: air purifiers, alcoholism "treatments," "tired blood" preparations, cold and cough remedies, colitis treatments and laxatives, diabetes treatments, eyeglasses by mail-order and hair restorers.

The booklet also gives advice on how to tell whether a remedy is a fake.

The booklet may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents a copy. A discount of 25 per cent is available for purchases of 100 copies or more. Single free copies are available from the Food and Drug Administration, Washington 25, D. C.

STUDY SEEKS BEST DOSAGE OF ASPIRIN FOR HEADACHE

A scientific study at the University of North Carolina has documented what many millions have accepted for decades: aspirin, in adequate dosage, will relieve the common headache.

"Evaluation of Aspirin in Treatment of Headache," by William J. Murray, Ph.D., M.D., is published in the January-February issue of **Clinical Pharmacology and Therapeutics.** The study was conducted by the Department of Pharmacology of the School of Medicine.

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"Although aspirin or aspirin-containing preparations are universally accepted as beneficial in therapy of the common headache, definitive clinical documentation is lacking," writes Dr. Murray. "An investigation was undertaken to compare headache relieving activity of several dosages of aspirin and to observe the nature and treatment of headaches on a group of university students."

The study involved 63 male medical students, 68 male pharmacy students and 13 female pharmacy students. Each participant carried a detailed questionnaire for recording such things as time of onset of headache, severity, aspirin dosage, speed and degree of relief, among other things. They were informed of the purpose of the investigation, but only that several dosages of aspirin would be employed. To prevent their knowing dosage strength, the aspirin was packed in color-coded capsules.

Subjects were divided into four nearly equal groups, and four treatments designed: 650 mg. (two 5-grain aspirin tablets), 325 mg. (one tablet), 163 mg. (one-half tablet), and a placebo. A Latin-square was used to permit each group to take each of the four dosages three weeks.

The total number of headaches reported during the 12-week study was 322 among 100 students; 44 reported none. Classifications of intensity were mild, moderate and severe, with moderate being the most frequently reported at 173. Only 35 were called severe.

From the standpoint of dosage, all headaches treated with the equivalent of two aspirin tablets showed 31 per cent "improved," those treated with one tablet 68 per cent "improved," and those treated with half a tablet 57 per cent "improved." Headaches treated with the placebo also showed 57 per cent "improved."

Subjects were permitted to take any other analgesic they desired if the study dosage did not bring relief within one hour, but this additional dosage and the relief effected were also recorded. Only 15 per cent in the 2-tablet category took additional analgesic, 30 per cent in the one-tablet category, 32 per cent in the one-half tablet group, and 36 per cent in

the placebo category. A number of commercial preparations were used in the follow-up therapy, most of which also contained aspirin.

"This additional analgesic produced some relief of headache in most cases," reports Dr. Murray, "but interpretation must be guarded since, except for the placebo, an additive effect is possible."

Most headaches occurred between the hours of 4 and 6 in the afternoon. For reasons probably connected with student life, the average time lapse from onset of headache until medication was taken averaged 67 minutes.

INCIDENCE OF POISONINGS IN CHILDREN HIGHEST IN EARLY MORNING AND AT NOON

Early morning and noon are the times when experimental small fry are most likely to sample toxic household products, according to the 1963 report of the University of Rochester Poison Control Center.

The University of Rochester unit is the official New York State-sponsored poison control center for an 11-county area.

Dr. Ruth A. Lawrence, director of the Center said that "the overwhelming majority of calls to the Center last year involved children." Two- and three-year-olds (especially boys) accounted for the largest number of calls.

Dr. Lawrence said that last year was the first in which the Center made a study of the times of day when calls came in. She pointed out that early-rising toddlers who explored household cupboards and medicine chests while their mothers fixed breakfast were a frequent source of calls to the Center. The period from 11 a.m. to 1 p.m. — another busy time in the kitchen — also produced a substantial number.

A month-long survey (December, 1963) showed that the majority of calls came within five minutes after the occurrence of a suspected accidental poisoning. Some calls, however, came in an hour or more after the ingestion occurred. "The greater the known toxicity of the product ingested, the more promptly the Center was called," Dr. Lawrence noted. "If a product is not known to be highly toxic — or if the immediate symptoms are not severe — there is greater likelihood of a wait-and-see attitude before calling the Poison Control Center.

"Actually, time can be a highly critical factor in cases of suspected poisoning," she said. "The chances for recovery are closely related to the speed with which medical treatment is given. A person suspected of accidental poisoning should be promptly taken to the nearest physician or hospital if medical attention seems indicated."

During 1963 the Center received approximately 3,500 calls, compared to 2,240 in 1962. As in previous years, **ingestion of medicines provided the largest source of calls, with aspirin the leading individual source of inquiries.** Gasoline, kerosene and other hydocarbons ranked second, closely followed by cleaning agents such as household bleaches and caustics. Inquiries about possible poisoning from ingestion of cosmetics ranked fourth.

In terms of actual hospital visits, medicines ranked as the leading source of suspected accidental poisoning. Hydrocarbons ranked second; poisons such as arsenic, lead, and carbon monoxide, third; and cleaning agents, fourth.

As in previous years, calls to the Center showed seasonal fluctuations. During the winter, when youngsters are indoors, ingestion of medicines and household cleaning agents rose; in late summer and fall, ingestion of berries from shrubs, garden plants, and indoor floral arrangements increased.

HEALTH CARE DATA FOR SOUTH DAKOTA

The people of South Dakota have reached a high level in health insurance protection. As of December 31, 1962, 63 per cent of the state's population was covered by some form of health insurance for the costs of hospital and medical care. This compares with the national figure of 76 per cent of the civilian population — some 141 million persons — having health insurance. State data follow:

Extent of Health Insurance Coverage and Other Figures

—Number of persons with hospital expense insurance	455,000*
—Number of persons with surgical expense insurance	425,000*
—Number of persons with regular medical expense insurance	290,000*
—Number of persons with major medical insurance	92,000*
—Total health insurance benefits paid (1961)	$14,141,000
By insurance companies for hospital, surgical and medical care, including loss of income	$11,443,000
By Blue Cross-Blue Shield and other plans for hospital, medical and surgical care	$ 2,698,000
—Number of health insuring organizations licensed in the state	202
(198 insurance companies, 2 Blue Cross-Blue Shield and similar groups, and 2 other health plans)	

Hospital Statistics

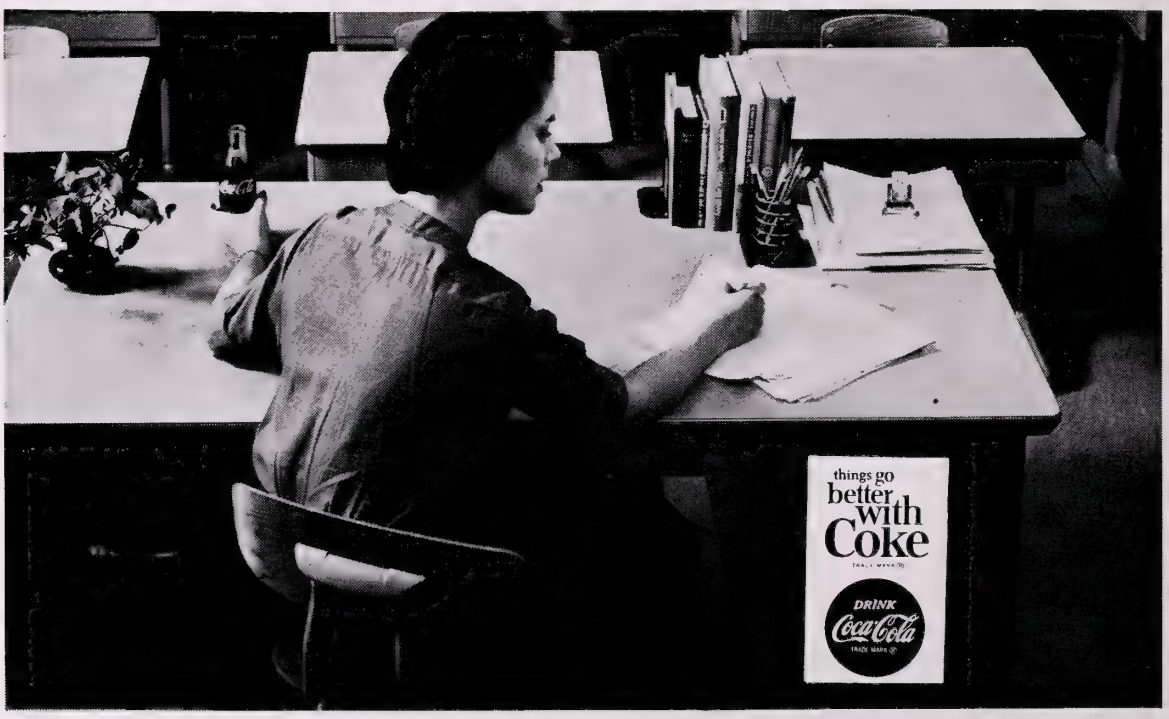
—Number of hospitals** in state (1962)	49
—Number of hospital beds available (1962)	3,094
—Number of persons admitted during the year (1962)	106,254
—Number of persons under hospital confinement on an average day	2,012
—Average length of time patient remained in hospital	7 days
—Average cost per hospital stay	$193.75

Professional Services

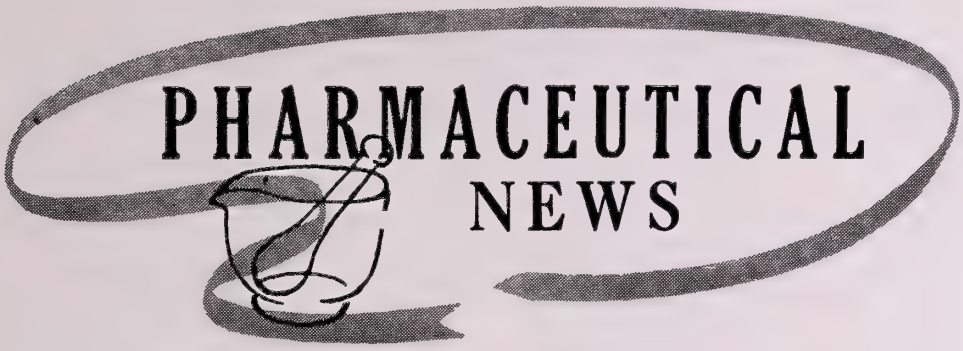
—Number of practicing physicians (1962)	434
—Number of practicing dentists (1962)	312
—Number of registered pharmacists (1962)	514

*Net total of people protected — eliminates duplication among persons protected by more than one kind of insuring organization or more than one insurance company policy providing the same type of coverage.

**Nonfederal, short-term general and other hospitals.



Whether you're a teacher correcting exams. A student cramming for them. A housewife cleaning up after the kids. Or a businessman working late at night. Whoever you are, things go better when you pause and refresh with ice-cold Coca-Cola.



PHARMACY STUDENTS ASSIST IN HEART FUND DRIVE

Approximately 65 South Dakota State College pharmacy students participated in the Heart Fund Drive held in Brookings on Heart Sunday, February 23. **Dr. Kenneth Redman,** professor of pharmacognosy at State, served as chairman for the drive. Student co-chairmen were **Thomas Ehrhardt,** Milwaukee, Wis., **Gary Gross,** Britton, and **Shirley Roso,** Wilmot.

Student organizations participating in the drive were Kappa Psi, national professional fraternity for men in pharmacy, Kappa Epsilon, national professional fraternity for women in pharmacy, and the Student Branch of the American Pharmaceutical Association.

Contributions totalling approximately $1,100 were obtained in this year's campaign.

STATE COLLEGE STAFF MEMBERS ADDRESS DENTAL GROUP

Dr. Harold S. Bailey, dean of academic affairs and professor of pharmaceutical chemistry, and **Dr. Gerald A. Bruno,** assistant professor of pharmaceutical chemistry, addressed the February 24th dinner meeting of the Sioux Falls Section of the South Dakota Dental Association. Dean Bailey outlined the history of Dental-Pharmacy Research conducted by the Division of Pharmacy at South Dakota State College. He pointed out that since the modest beginning of the program in 1957, which was supported jointly by the South Dakota Dental Association and the South Dakota Pharmaceutical Association, the project has expanded with the aid of federal funds from the National Institute of Dental Research to a program involving expenditures of over $20,000 annually. Funds received from federal sources prior to this year amounted to over $64,000, while future support of nearly $70,000 for the next three years has been approved.

Dean Bailey also presented information relative to the current status of experimental dental caries research. He discussed the factors considered to be conducive to caries formation, which included the oral bacterial environment of the host, the complex anatomical-physiological condition of the host and the prevailing dietary conditions.

Dr. Bruno discussed the dental-pharmacy research that has been completed at South Dakota State and plans for future investigations. He indicated that studies have thus far shown that protein anabolic drugs increase dental caries in experimental animals maintained on caries-producing

diets. He stated that future work will involve attempts to elucidate the mechanism of caries production and also extension of efforts toward determining the effect of commonly used drugs on tooth decay.

SK&F WITHDRAWS DRUG FROM MARKET

Due to a recent difference of opinion between the Food and Drug Administration and Smith, Kline & French Laboratories, it has been necessary to withdraw from the U. S. Market a drug for treating mental illness, Parnate. We urge all physicians to comply with the requests made in a letter to all physicians in this country from Smith, Kline & French.

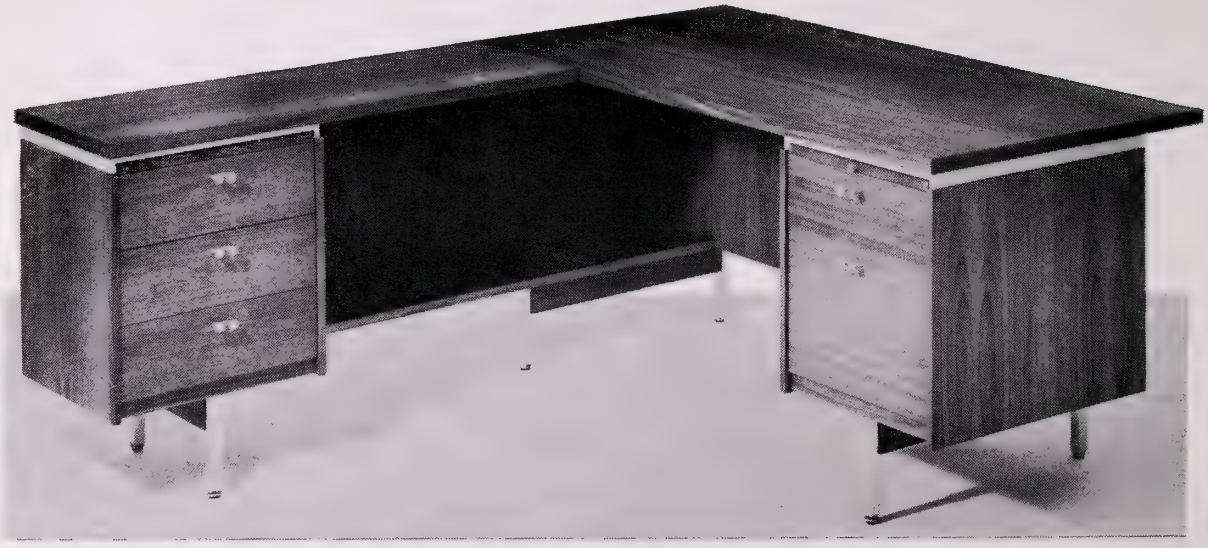
NEWS ITEMS FROM THE ALLIED DRUG TRAVELERS

"Las Vegas Night:" Final arrangements have been made for a "Las Vegas Night" to be held April 24, 8:30 p.m., at the Cactus Heights' Country Club in Sioux Falls. Tickets ($1.00 each) are available from members of the Travelers, each ticket entitling the bearer to bring an unlimited number of guests. A real "fun night" is promised. Proceeds from the event will be applied toward a scholarship for a pharmacy student.

Sales Meetings: The following members attended advanced sales training classes during the month of January: **Warren Kroona** (The Stuart Company), Chicago, Ill.; **Don Evans** (A. H. Robins Company), Omaha, Nebr.; **Joe Agnitsch** (Mead Johnson & Company), Minneapolis, Minn.; **Duane Outka** (Wm. H. Rorer, Inc.), St. Louis, Mo.; **Art Runyan** (Ortho Pharm. Company), Minneapolis, Minn.

Annual Meeting: The Allied Drug Travelers' annual meeting will be held at 10:00 A.M., May 18, in the Prairie Room of the Lawler Hotel, Mitchell. The meeting is scheduled during the annual convention of the South Dakota Pharmaceutical Association. All members are urged to attend.

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in virtually all diarrheas...prompt symptomatic control

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TABLETS / LIQUID—Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.



Gastroenteritis | Functional diarrhea | Drug-induced diarrhea | Postsurgical diarrhea

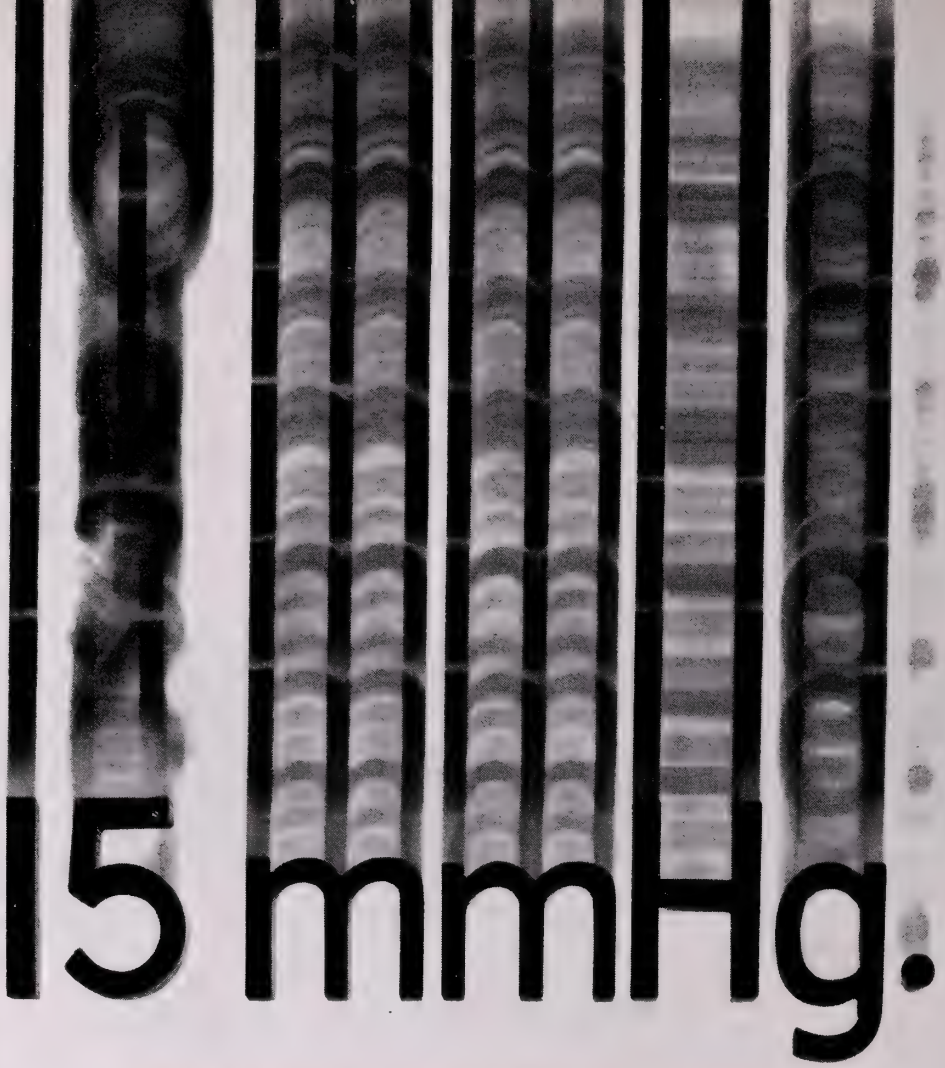
Lomotil controls the basic physiologic dysfunction in diarrhea—excessive propulsive motility. Pharmacologic evidence indicates that it does so by directly inhibiting propulsive movements of the intestines. This direct, well-localized activity controls diarrheas of widely varied origin and does so promptly, conveniently and economically.

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It should be noted, however, that Lomotil has proved highly useful in mild to moderate ulcerative colitis and in several other refractory forms of diarrhea.

The recommended initial adult dosage is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. *Children's* daily dosage (in divided doses) varies from 3 mg. for a child of 3 to 6 months to 10 mg. for one 8 to 12 years of age. Lomotil is an exempt narcotic; its abuse liability is low and comparable to that of codeine. Recommended dosages should not be exceeded. Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. Lomotil is a brand of diphenoxylate hydrochloride with atropine sulfate; the subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Research in the Service of Medicine SEARLE



AVERAGE DIASTOLIC DROP*

*has been reported after use of HYDROMOX Quinethazone in recent studies of patients with various hypertensive diseases, including essential hypertension and hypertension associated with arteriosclerotic heart disease, obesity, and renal disease.[1,2] The treatment period in one study was eight weeks[1] and in the other, twelve.[2] The lack of serious disturbances in serum electrolyte levels, particularly of potassium, was noteworthy and was considered a sufficiently important factor in treatment value to give the drug a preferential status.[2] One to two 50 mg. tablets once daily is usually sufficient.

ANTIHYPERTENSIVE DIURETIC HYDROMOX®
QUINETHAZONE·TABLETS

1. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, Calif., Nov. 25-28, 1962.
2. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. *J. Amer. Geriat. Soc:* 11:945 (Oct.) 1963.

INDICATED in hypertension with or without edema, and in all types of edema involving salt retention. May be helpful in some cases of lymphedema, idiopathic edema and edema due to venous obstruction.

SIDE EFFECTS: Skin rash (rare), gastrointestinal disturbances, weakness and dizziness, seldom so severe that drug should be stopped. Generally, the adverse effects, sometimes associated with the thiazide diuretics are possible. Pre-existing electrolyte abnormalities may be aggravated.

CONTRAINDICATION: Anuria.

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easy to use: Because 'Miltown' (meprobamate) is compatible with almost any other kind of drug therapy, you'll find it fits in easily with any program of treatment you are now using. It will not, therefore, complicate treatment of patients seen in clinical practice.

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Contraindications: Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: Should administration of meprobamate cause drowsiness or visual disturbances, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage. *Complete product information available in the product package, and to physicians upon request.*

Usual adult dosage: 1 or 2 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. coated tablets.

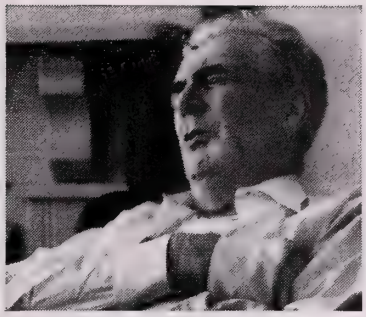
CM-1114



The insomniac



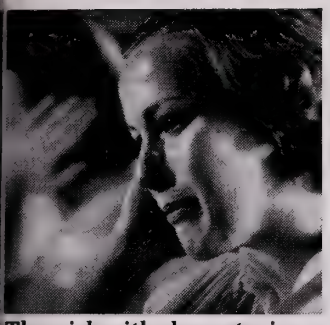
The tense, nervous patient



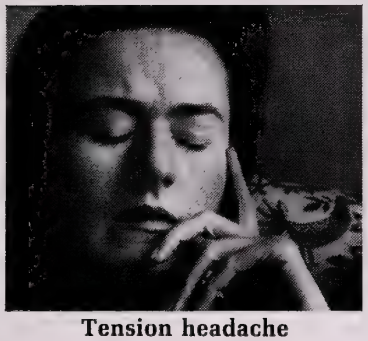
The heart-disease patient



The surgical patient



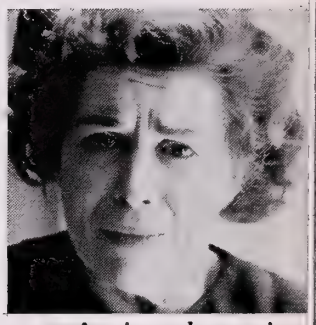
The girl with dermatosis



Tension headache



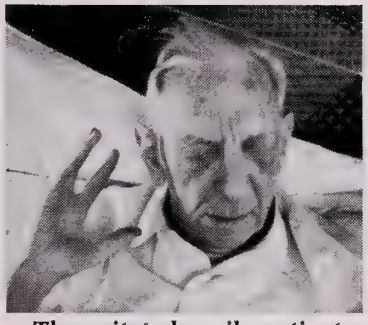
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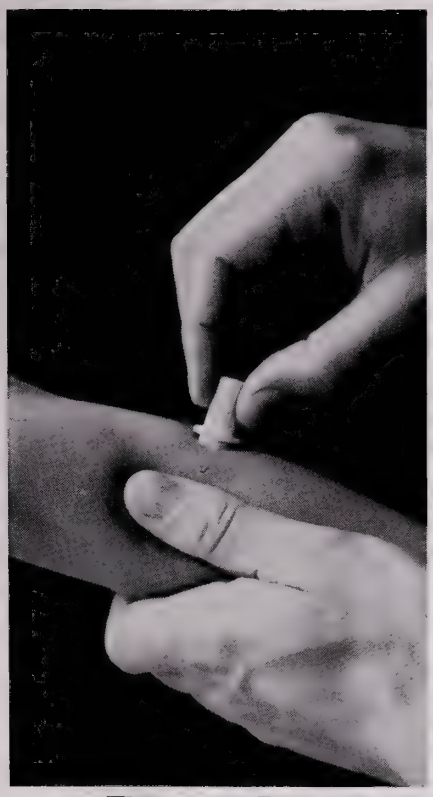
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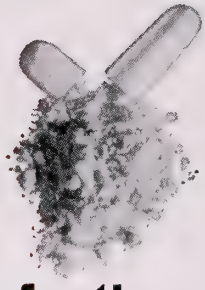
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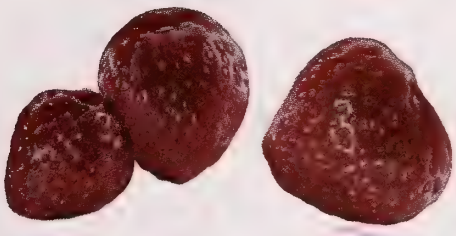
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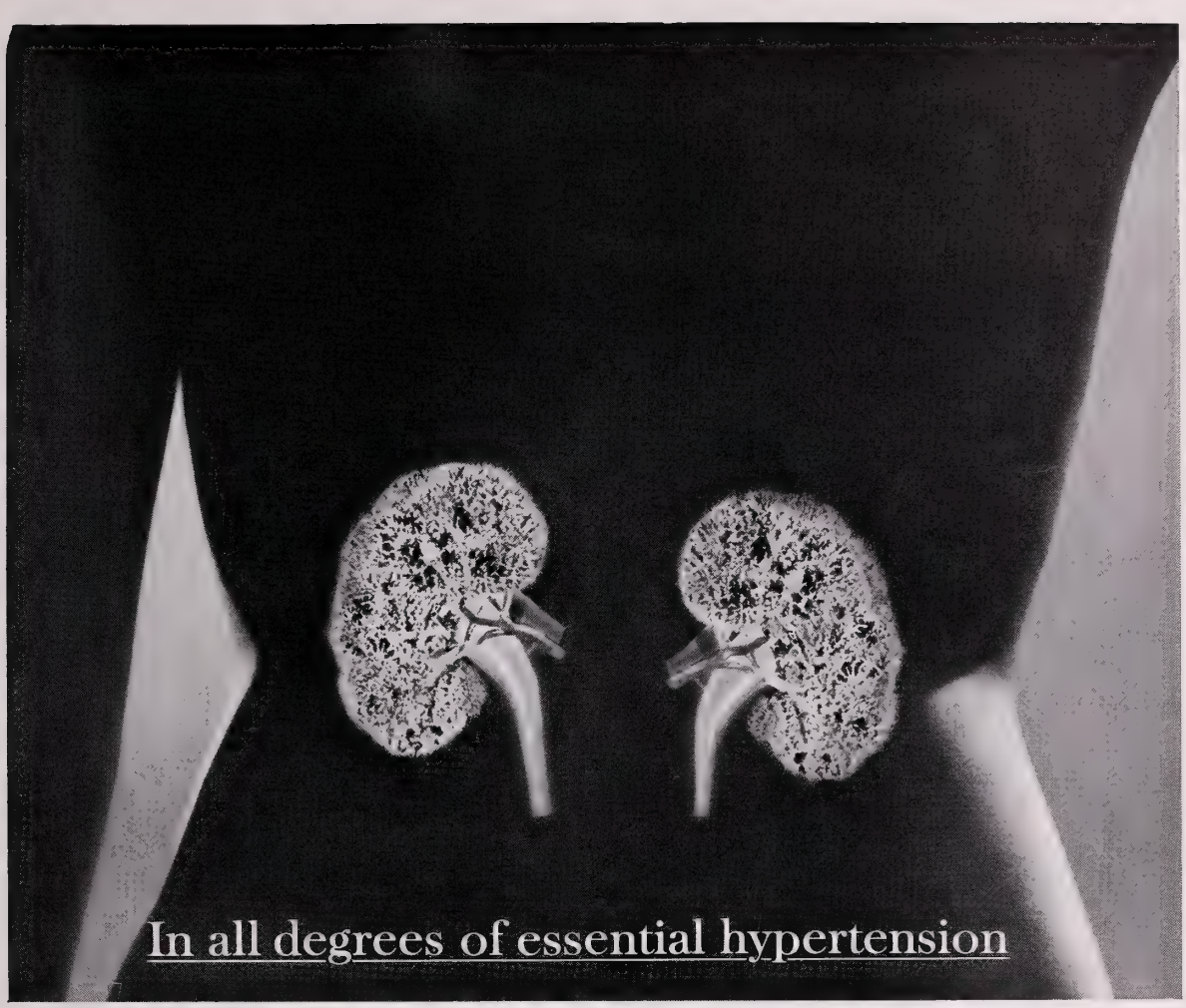
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References: (1) Moyer, J. H., and Heider, C.: Am. J. Cardiol. *9*:920 (June) 1962. (2) Brest, A. N., and Moyer, J. H.: Pennsylvania M. J. *63*:545 (Apr.) 1960. (3) Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. *10*:516 (June) 1962. (4) Hutchison, J. C.: Current Therap. Res. *4*:610 (Dec.) 1962. (5) Feldman, L. H.: North Carolina M. J.: *23*:248 (June) 1962.

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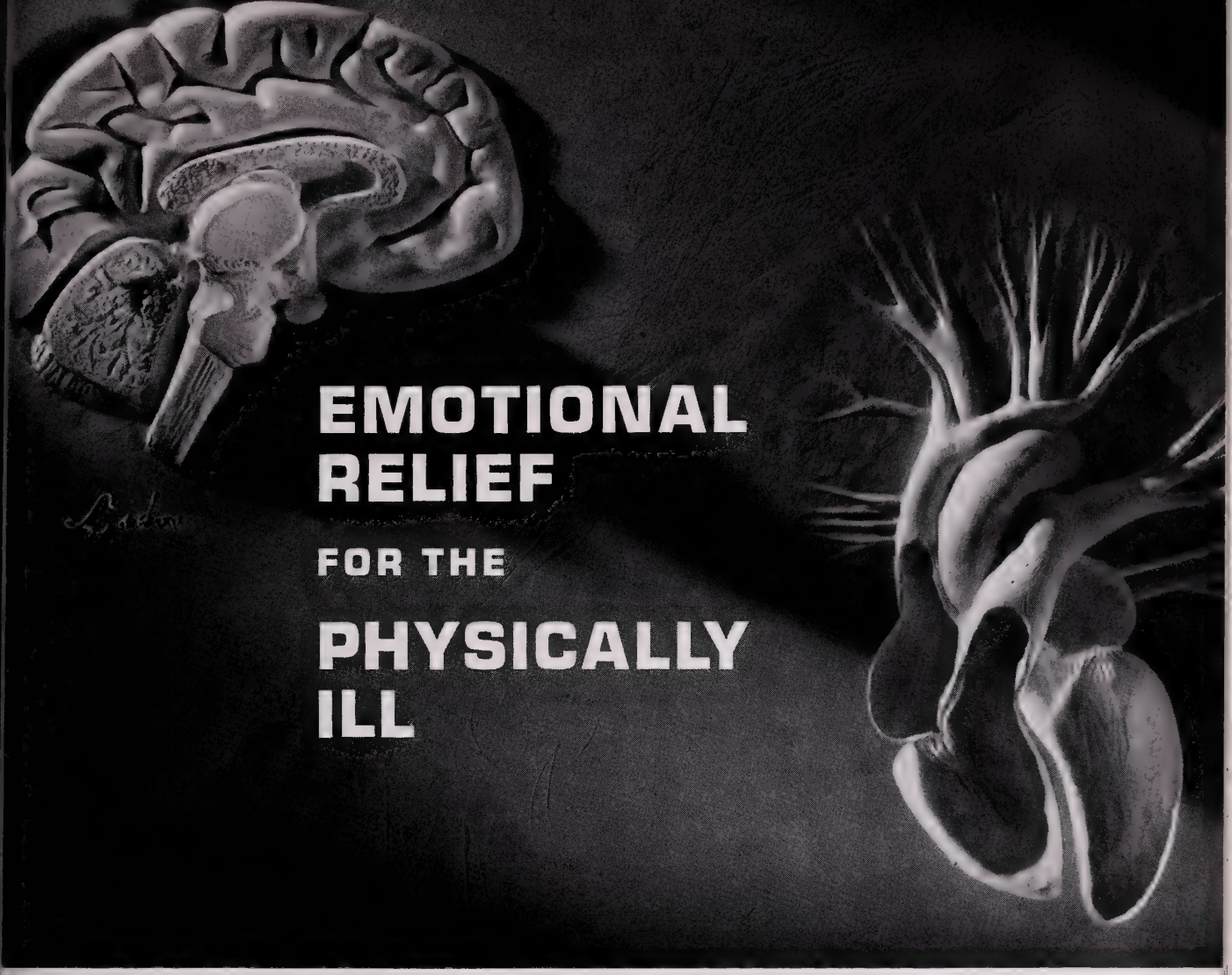
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Also available: PABALATE—when sodium salts are permissible. PABALATE-HC—Pabalate-SF with hydrocortisone.

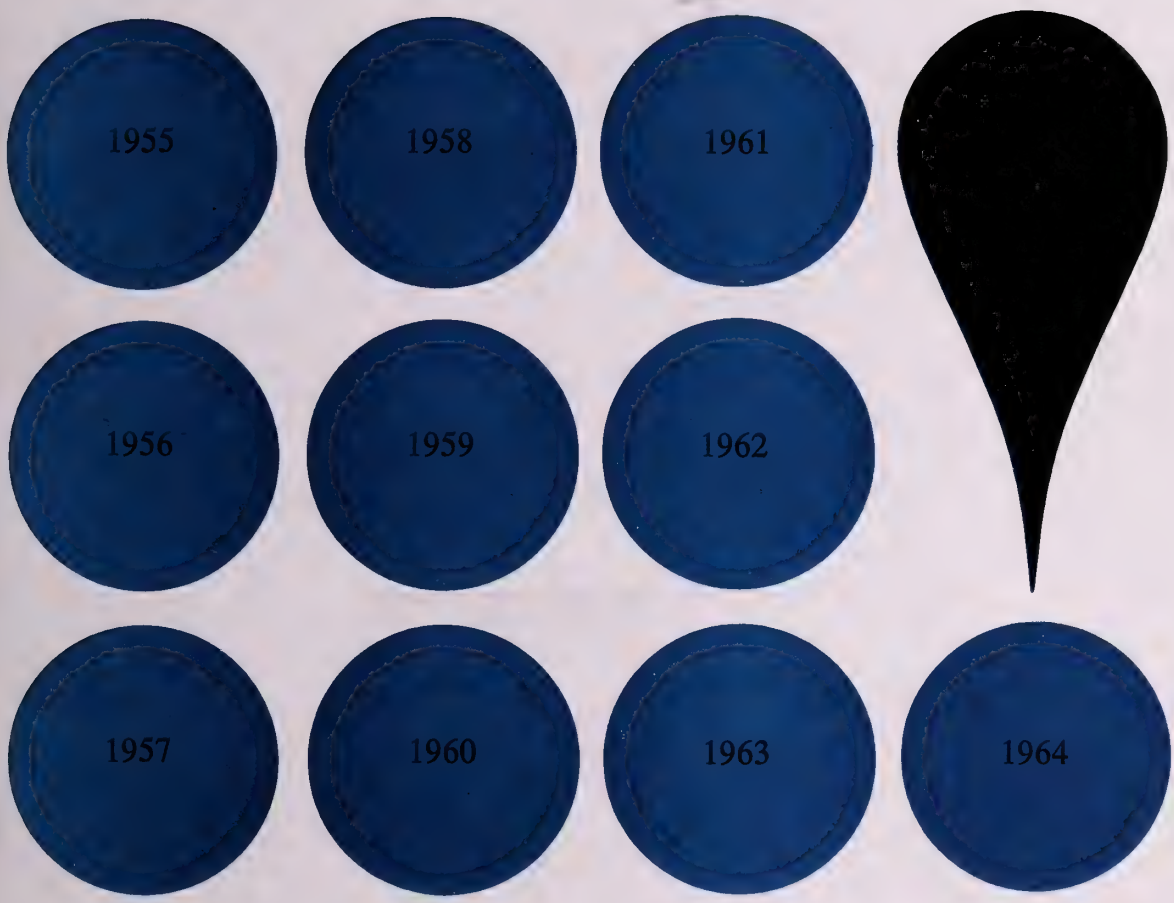
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The clear conclusion from 10 years' experience...

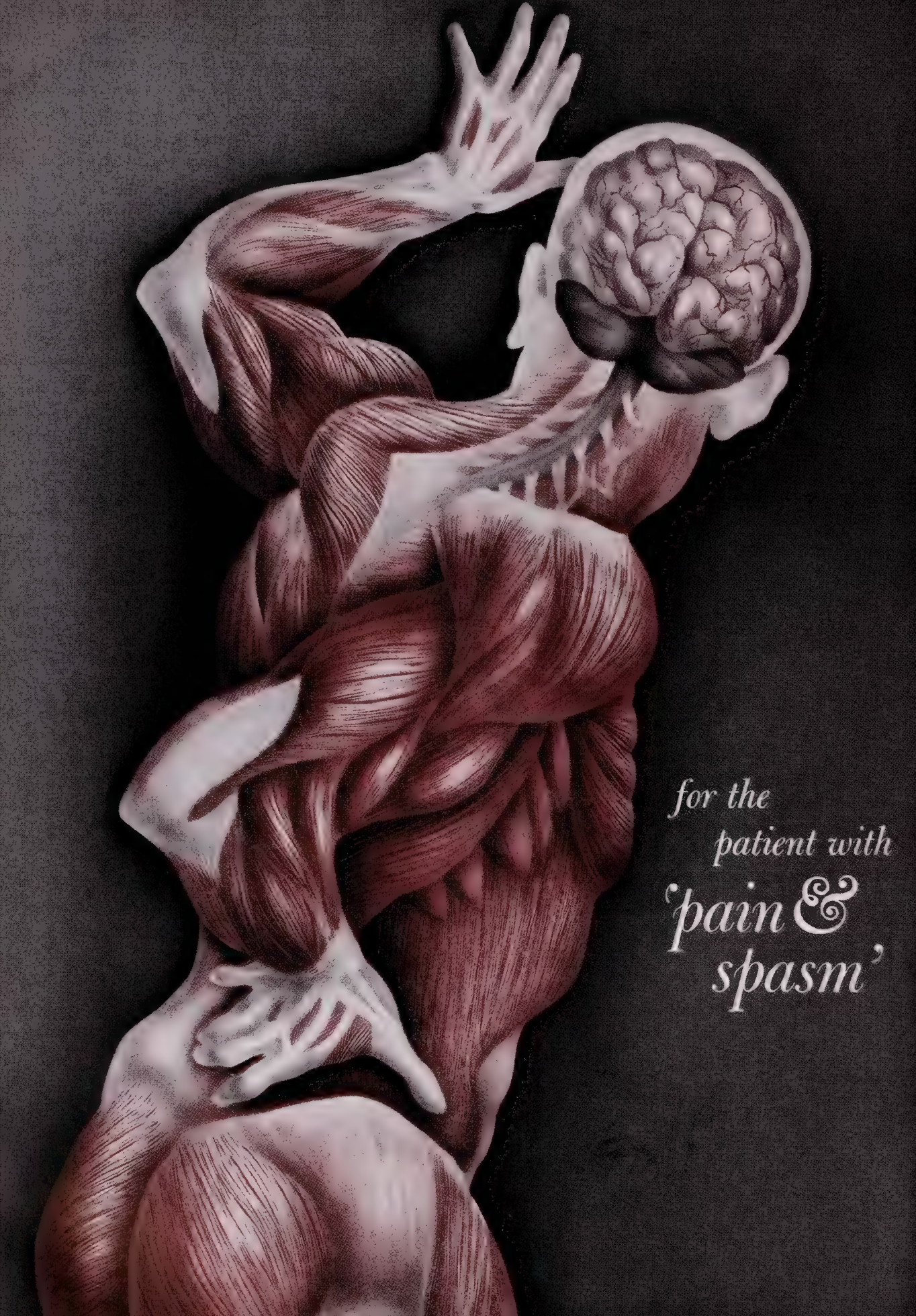


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for the
patient with
'pain &
spasm'

pain *is almost invariably a presenting symptom in cases of skeletal muscle* *spasm*

In some instances, the pain subsides on relaxation of the muscles in spasm. In others, relaxant therapy alone fails to give adequate relief, and supplementary analgesia (and possibly sedation) are indispensable, as in cases of:

provocative pain, when muscle spasm is triggered by some painful underlying musculoskeletal defect.

residual pain, when relaxation of severe spasticity leaves a degree of myalgia that tends to reinvoke spasm.

severe pain, when the degree of pain is such as to cause persistence of symptoms in spite of relaxant therapy.

emotionally aggravated pain, when anxiety or agitation creates tension that thwarts the efficacy of both relaxant and analgesic medication.

In such cases, ROBAXISAL and ROBAXISAL-PH have proven highly effective in assuring decisive and comprehensive relief. The ROBAXISAL formula—of ROBAXIN (methocarbamol), the potent muscle relaxant, together with aspirin, the time-tested and proved analgesic—produces higher plasma salicylate levels than equivalent doses of aspirin alone, and serves effectively to control both spasm and pain. ROBAXISAL-PH's combination of ROBAXIN (methocarbamol) with the analgesic-sedative ingredients of the PHENAPHEN formula—including phenobarbital—helps additionally to ease apprehension.

ROBAXISAL®

Robins

Each pink-and-white laminated Tablet contains:
ROBAXIN (methocarbamol, Robins) .....400 mg. Aspirin (5 gr.).....325 mg.
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ROBAXISAL®-PH

Each green-and-white laminated Tablet contains:
ROBAXIN .....400 mg. (methocarbamol, Robins)
Phenacetin (1½ gr.)....97 mg.
Aspirin (1¼ gr.).....81 mg.
Hyoscyamine sulfate 0.016 mg.
Phenobarbital (⅛ gr.)....8.1 mg.
(Warning: May be habit forming)



"PAIN & SPASM"
–a two-headed dragon!

ROBAXISAL and ROBAXISAL-PH are indicated in strains and sprains, painful disorders of the back, "whiplash" injury, myositis, pain and spasm associated with arthritis, torticollis, and headache associated with muscular tension.

Side effects such as lightheadedness, slight drowsiness, dizziness and nausea may occur rarely in patients with intolerance to drugs, but they usually disappear on reduction of dosage.

Contraindicated for patients hypersensitive to any component of the formulations. There are no specific contraindications to methocarbamol, and untoward reactions are not to be expected.

A. H. ROBINS CO., INC., Richmond 20, Virginia

An open letter on a new concept in cigarette filtration from the makers of new LARK cigarettes

DEAR DOCTOR: In the recent report of the Surgeon General's Advisory Committee on Smoking and Health, attention was drawn to the inhibitory effect of cigarette smoke on respiratory cilia. On page 34, the Report states: "Components of the gas phase of cigarette smoke have been shown to produce various undesirable effects on test animals or organs. One of these effects is suppression of ciliary transport activity, an important cleaning function in the trachea and bronchi (Chapter 6, p. 61 and Chapter 10, pp. 267-270)."

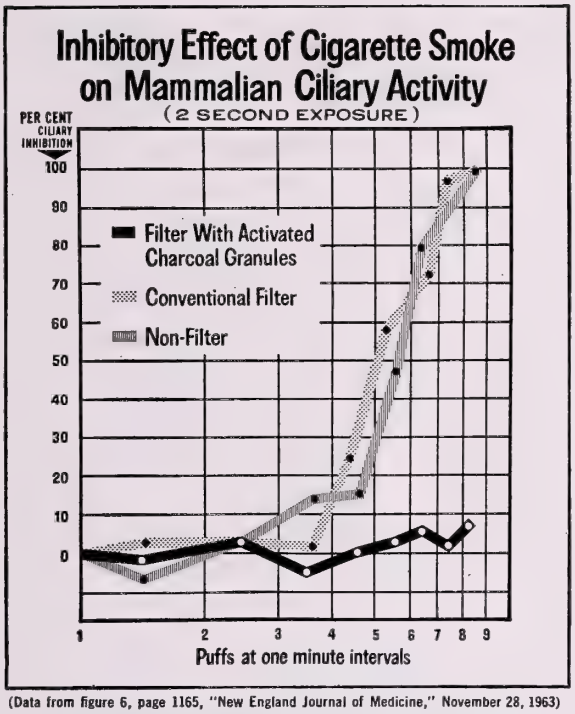
The Report also notes that there is a cigarette filter containing special charcoal granules which reduces certain gases which inhibit the activity of mammalian respiratory cilia. On page 61 of the Report it states: "Activated carbons differ markedly in their adsorption characteristics. Carbon filters previously employed in cigarettes do not have the specific power to scrub the gas phase. It has been reported that a filter containing special carbon granules removes gaseous constituents which depress ciliary activity (28)." The reference cited is "New England Journal of Medicine" (Kensler, C. J. and Battista, S. P., *269:* 1161-1166, November 28, 1963).

In 1954, Liggett & Myers Tobacco Company began a broadly based program of biological research on tobacco smoke which has been conducted in the Life Sciences Division of Arthur D. Little, Inc., Cambridge, Mass. In recent years, this research has centered on the gas phase of cigarette smoke, and the development of a specially treated charcoal-granule filter. This filter materially reduces the gases in cigarette smoke which contribute to the inhibition of the activity of mammalian

respiratory cilia in *in vitro* experiments. (see chart.)

Dr. Kensler points out in his paper referred to above: "Although it is recognized that these *in vitro* findings may not be directly extrapolated to the effects of cigarette smoke on human pulmonary tissue the use of the charcoal-granule filter will obviously reduce the level of exposure of the non-ciliated as well as ciliated bronchial and alveolar cells to potentially harmful smoke components."

The specially treated charcoal-granule filter discussed in the Kensler and Battista paper was the prototype of the one which is now available to the public on Lark cigarettes. Since some of your patients may have heard of this filter through the lay press, and may inquire about its basis in science, we believe you may wish to have the information at hand.



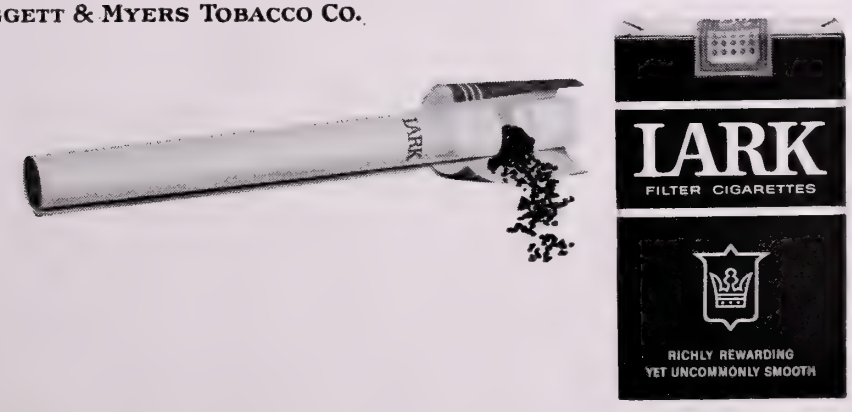
(Data from figure 6, page 1165, "New England Journal of Medicine," November 28, 1963)

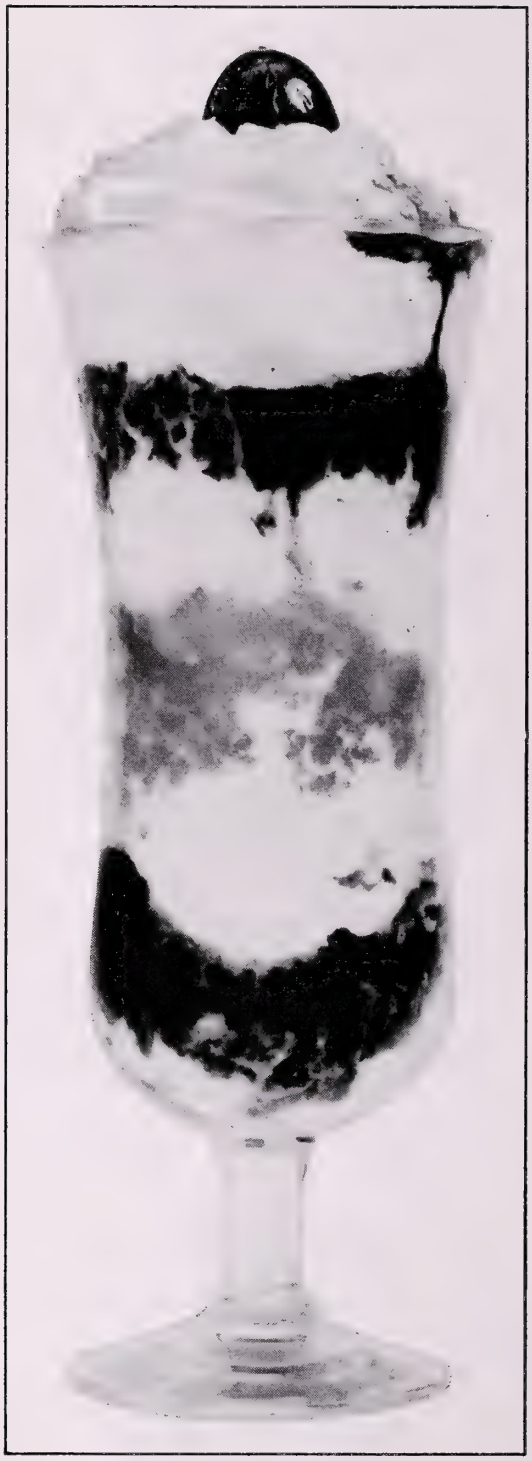
Chart shows inhibition of the mammalian ciliary activity by the irritating gases in cigarette smoke:

1. The screened lines represent conventional filter and non-filter cigarettes and show how they produced 50% ciliary inhibition after 5 to 6 puffs and 100% inhibition after 7 to 8 puffs.

2. On the other hand, the filter with activated charcoal granules, represented by the solid black line, produced no significant inhibition (less than 10%) when the whole cigarette (8 puffs) was smoked.

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Overeating is often an outlet for feelings of hostility. Many people take out their anger by overindulgence at or between meals. As a result they become overweight.

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Each capsule contains Dexedrine® (brand of dextroamphetamine sulfate), 15 mg., and Compazine® (brand of prochlorperazine), 7.5 mg., as the maleate.

SPANSULE®

brand of sustained release capsules

because emotions play an important role in overweight

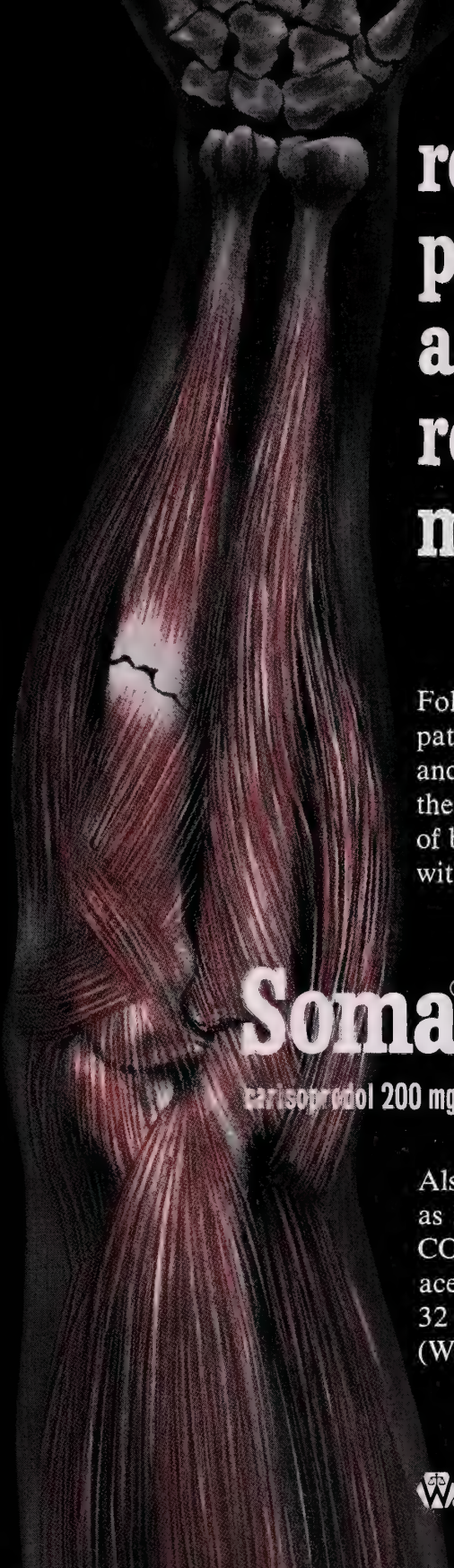
Brief Summary of Principal Side Effects and Cautions

Side effects (chiefly nervousness and insomnia) are infrequent, and usually mild and transitory. *Cautions:* 'Eskatrol' *Spansule* capsules should be used with caution in the presence of severe hypertension, advanced cardiovascular disease, or extreme excitability. There is a possibility, though little likelihood, of blood or liver toxicity or neuromuscular reactions (extrapyramidal symptoms) from the phenothiazine component in 'Eskatrol' *Spansule* capsules.

For complete prescribing information, please see *PDR* or available literature.

Supplied: Bottles of 50 capsules.

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carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg.

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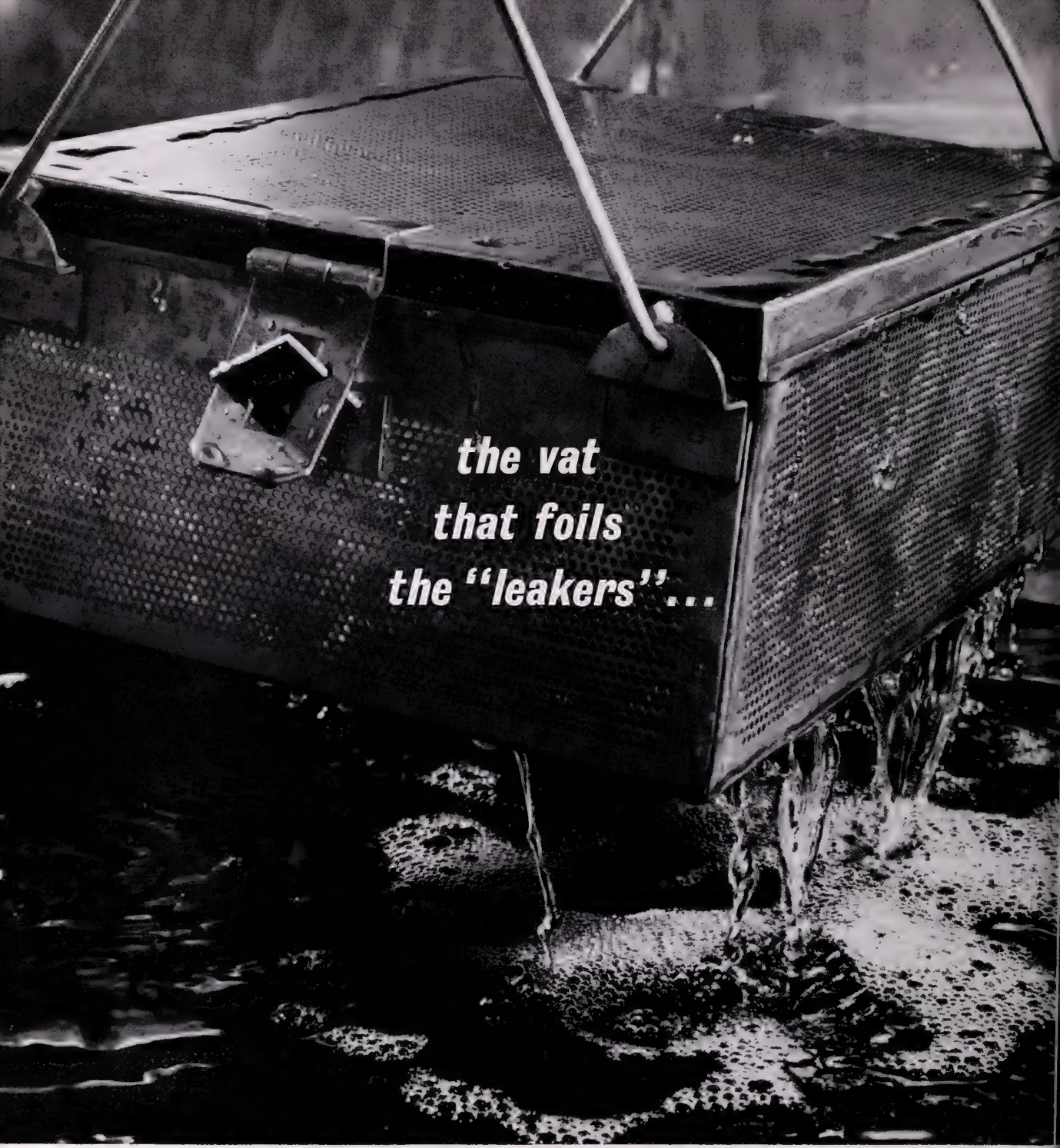
Side effects: Although there has been no evidence of tolerance, withdrawal symptoms or excessive self-medication, Soma Compound and 'Soma' Compound with Codeine, like other central nervous system depressants, should be used with caution in addiction-prone individuals. While codeine addiction is relatively rare and easily broken, the same precautions must be observed as for any other opium alkaloid. Nausea, vomiting, constipation and miosis are possible codeine side effects. Should symptoms of hypersensitivity occur, discontinue medication.

Contraindications: None reported.

Complete product information available in the product package, and to physicians upon request.

Dosage: Usual dosage is 1 or 2 tablets 4 times daily.

Supplied: 'Soma' Compound is available in orange, scored tablets; bottles of 50. 'Soma' Compound with Codeine (narcotic order form required) is available in white, lozenge-shaped tablets; bottles of 50.

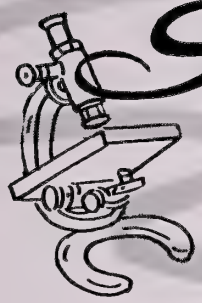


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Scientific PAPER

CANCER INVOLVING THE LARYNX: A CRITIQUE OF TEN YEARS' EXPERIENCE

By

John B. Gregg, M.D.(1)
Sioux Falls, So. Dak.
and
Sylvester Clifford, Ph.D.(2)
Vermillion, So. Dak.

This paper is the first in a series of two devoted to the subject of cancer involving the larynx. It relates to the treatment and the subsequent paper is a discussion of the rehabilitation of the individual after surgery.

1) Professor of Otolaryngology and Consultant to the Speech and Hearing Clinic, University of South Dakota; Medical Adviser Nu Voice Club of South Dakota.
2) Associate Professor of Speech, Director of Speech and Hearing Clinic, University of South Dakota; Speech Adviser, Nu Voice Club of South Dakota.

Neoplasms primary in the larynx comprise about three percent of all human malignancies. Intrinsic (those arising on the vocal cords, ventricles, and in the sub-glottic area) and extrinsic (those arising on the superior surface of the ventricular bands, the epiglottis or its appendages, and in the post-cricoid area) cancers occur with about the same frequency. Hypopharyngeal lesions and base of tongue tumors, which often involve the larynx comprise another two percent of human malignancies. The statistical incidence of these diseases has not increased appreciably in recent years as has that of some nearby neoplasms, notably lung cancers. Too often when a lower throat cancer is seen it is difficult to determine its exact point of origin. For this reason it is impossible to obtain a "pure" series of primary laryngeal cancers. Males are affected about 13:1, the disease having its highest incidence from age fifty years on. Squamous cell carcinoma is the commonest morphological type in the hypopharynx and larynx. Intrinsic carcinomas are usually quite well differentiated; about 50% of the extrinsic cancers are well differentiated. The biological activity of these tumors is usually greater in younger persons. Anaplasia usually increases as a tumor's point of origin is removed from the true vocal fold. Cordal cancers metastasize slowly because of the poorer lymphatic drainage. Neoplasms arising away from the edge of the true cord, having a richer lymphatic system, often metastasize very soon.[1, 2, 3, 4, 5, 6, 7]

Because it is located in a readily accessible area, commonly makes its presence known early and usually does not spread rapidly, the cure rate in intrinsic laryngeal cancer should be high. Extrinsic, hypopharyngeal and base of tongue lesions are often quite silent early, their presence being indicated by the appearance of metastases. The prognosis in these latter tumors is much less favorable. The most common symptoms of these lesions are: 1) hoarseness (seen earliest in intrinsic cord tumor), 2) persistent pain and discomfort on swallowing, 3) cervical metastasis (especially in extrinsic cancer), 4) cough, and 5) dyspnea. Pain from the throat area radiating to the ear on the affected side occurs quite frequently with these malignancies. Obregon[8] reported that in a large series of cord cancer patients the majority of those having persistent hoarseness will consult a physician within six weeks. If malignancy is suspected and investigated, the true diagnosis will be made in all instances. If not investigated "there is an average delay of more than 10 months before the true diagnosis is made." For this reason many laryngologists feel that any person, especially a male over 35 years of age, more so if he is a smoker and/or a drinker, who is hoarse for three weeks, should be suspected of throat cancer and should undergo careful laryngeal examination. Persistent throat pain, especially if accompanied by radiation to the ear, should also be treated first by thorough indirect and possibly direct examination. An unexplained node or mass in the neck demands immediate, critical investigation of the interior of the throat and larynx. If abnormal tissue is seen, a biopsy must be made to confirm the presence of malignancy. It is unwise to do throat or node biopsies unless there are available complete facilities to treat the entire lesion. This is most important in cases in which a neck node of undetermined origin is the presenting symptom. Too often if a node is biopsied without thorough investigation for the primary tumor, the actual treatment may be compromised. In cases of laryngeal cancer with neck node metastasis, laryngectomy combined with radical neck dissection en bloc usually offers the greatest chance of survival. Frequently the same principles of treatment have to be employed with neoplasms arising in the hypopharynx and base of tongue so that the end result is identical insofar as the patient is concerned. Indiscriminate node biopsies increase the chance of spreading the neoplasm tremendously. When tumors or nodes are biopsied the local secondary inflammatory lymphadenitis often increases the size of the tumor and the regional nodes masking the actual process, and presenting a distorted picture.

In the past there has been considerable discussion as to the most favorable treatment for cancer in the pharyngo-larynx, the majority of the views being expressed by the laryngologists and the radiologists. Formerly the early and therapeutically best candidates for treatment were advised to have surgery. The late, hopeless, poor treatment risks, or those who refused surgery were relegated to palliative radiation. It has been reported recently that in early, localized cord carcinomas the cure rate is equally good with radiation or surgery. Large tumors, invasion of deeper laryngeal structures with or without cord fixation, distance from the cord edge, node metastasis, or the presence of extrinsic lesions, are all factors which decrease the prognosis with radiation but which have a proportionately better prognosis with radical surgery. Some quite favorable results have been noted using cobalt radiation in advanced lower throat neoplasms. Early use of radical surgery, removing the tumor along with dissection of the regional lymph nodes as the primary procedure or as a combined procedure with radiation has done much to increase the salvage rate in advanced cancers which in the past were considered hopeless. In treating these tumors the physician must be able to adopt the philosophy that cancer is never cured with a faint heart and must realize that his ultimate goal is to separate this man from this cancer.

Primarily because facilities for rehabilitation of the entire post laryngectomy patient were not available, radical surgery was not employed locally in South Dakota until quite recently. The hospital records show that the first laryngectomy was performed in Sioux Falls on August 3, 1955. Since that time nine subsequent laryngectomies have been done by the senior author. Four other laryngectomies have been done elsewhere

upon patients seen, diagnosed or in some way treated here, during the same interval. Other less extensive operations for laryngeal cancer have been done and a considerable number of these malignancies have been seen and treated by other means. Despite glowing reports of excellent results measured by five year cures which have emanated from various clinics in recent years, a review of the data which has been compiled here (see Table #1) suggests that we are not able to duplicate these results. Because many of the patients presented here have not been followed for five years from the date of treatment statistical analysis is not possible. However, the results indicate that more and more patients are surviving for longer intervals suggesting that better results are accruing with time. Some of the reasons for the less than optimum survival rate here are: 1) Much of the apparent poor result stems from the fact that by the time a laryngeal or hypopharyngeal cancer is seen by the laryngologist it is late and far advanced. 2) The message of the American Cancer Society and other organizations which attempt to educate the public appears to be getting to the wrong persons, the hypochondriacs, rather than to the potential cancer sufferers. Most of the physicians in this area are definitely concerned about neoplasms and refer potential throat cancer patients for therapy soon. 3) The general health of a considerable number of the patients seen in this series was such that radical surgery would have been accompanied by great risk to the patient. 4) As in every group of patients, individuals were encountered who refused to submit to suggested treatment, thus compromising any attempt at treatment. 5) The patients seen in practice cannot be selected for favorability of tumor location or desirability as to a certain mode of therapy, but must be taken as they come good or bad, thereby decreasing the potential five year cure rate. When all of these factors are considered, a five year cure rate of about 33% is, in actuality, remarkable.

A glance at this data would also suggest that any person having suspicious hypopharyngeal-laryngeal symptoms should be followed carefully for some time, despite the absence of indicative findings or a positive biopsy. In one instance a woman was followed for three and one-half years before definite evidence of neoplasm appeared and a positive biopsy was obtained. On another occasion a man with hypertrophic laryngitis was followed for over two years during which interval the laryngeal lesion was biopsied on four occasions before a definite positive specimen was obtained. Any person with leukoplakia or hypertrophic laryngitis should be put on a tumor followup schedule and examined at intervals, if necessary for the rest of his life, to be certain that cancer does not develop.

Careful followup of the patients after their original therapy, whether it be surgery or radiation, is imperative. Patients in this study have demonstrated recurrent or residual cancer as much as four years after the primary tumor had been treated. Unfortunately recently there has been a trend for a few patients and their families to put more emphasis on rehabilitation than upon being certain that the cancer is eradicated. It has been the authors' experience that some post treatment patients fail to come to the physician's office for routine cancer checkup, but do go to rehabilitation exercises with the mistaken idea that this is a substitute for careful medical checkup. It has to be forcefully explained to these individuals that a person with eloquent esophageal speech cannot talk from six feet under ground.

These results suggest that continual efforts must be made to educate the public to be seen soon if the symptoms previously noted appear. Physicians will have to be unceasingly cautious and suspicious of throat cancer. Therapy in this disease must be energetic, the first treatment of the malignancy being the one which counts. With improved surgical techniques, good anesthesia and better supportive measures, there will be very few individuals who cannot be offered a chance to eliminate this cancer.

Unfortunately, radical surgery in laryngeal-hypopharyngeal cancer will be with us until a better mode of treatment comes. This radical surgery has led to serious problems in rehabilitation of the patient once he is free of his cancer. These include far reaching alterations in the use and care of the air and

TABLE No. 1

Patient	Sex	Age	Date First Seen	Pathology & Location	Radiation Date of Completion	Laryngo-Fissure Date	Laryngectomy Date	Laryngectomy and Radical Neck Date	Radical Neck Date	Present Status	Remarks
C.T.	M	75	6/28/54	CA. Right true cord	Elsewhere 1954					Unknown	
J.D.	M	55	6/22/54	CA. right false and true cords, poorly differentiated	Elsewhere April 1954					Died 11/22/54	
C.W.	M	57	8/4/54	Anaplastic CA. right cord with bilateral upper neck nodes	Started but not completed					Died 8/16/54	
O.L.	M	66	1/12/55	CA. right false and true cords epiglottis	February '55					Died 5/7/56	Extensive local metastatic CA.
E.F.	M	53	1/14/55	CA. left true cord, well differentiated	3/29/55		9/27/56			L & W	
H.R.	M	48	5/28/55	CA. moderately differentiated, epiglottis			8/3/55			L & W	
A.S.	M	63	8/25/55	CA. extensive, right side of larynx and pharynx	1955					Died 1955	Extensive local and metastatic carcinoma
S.P.	M	57	11/23/55	CA. false cord, well differentiated			12/16/55			L & W	
H.B.	M	70	7/7/56	CA. Three primaries: 1) Roof of mouth. 2) Left tonsil fossa. 3) Anterior surface of epiglottis; all well differentiated.	Sept. '56					Died 6/7/58	Developed fourth primary epidermoid carcinoma in right lower lobe of lung. Extensive CA. in lung. 21
C.S.	M	78	10/28/56	CA. extensive left side of larynx and hypopharynx	Dec. '56					Died Apr. '57	Extensive CA.
L.L.	M	56	4/24/57	CA. well differentiated superimposed upon neurofibroma in larynx.	July '57					L & W	Von Recking-hausen's disease 22
C.A.	M	75	6/27/57	CA. moderately differentiated epiglottis, glósso-epiglottic sulcus, bilateral neck nodes.	1957					Not known	Did not return for checkup
M.M.	M	59	7/3/57	CA. right cord, well differentiated.	10/3/57					Not known	Free of cancer when left S. D. 11/26/58

J.T.	M	31	7/5/57	CA. extensive left side of larynx, hypopharynx, left upper neck nodes	Sept. '57					Died 10/8/57	Widespread CA.
G.F.	M	50	7/6/57	CA. moderately well differentiated, two primaries: 1) Right arytenoid area. 2) Right glosso-epiglottic fold	9/18/57 X-Ray 12/19/58 Radium		4/20/59 Elsewhere		3/17/58	L & W	
T.H.	M	64	11/27/57	CA. right cord, moderately well differentiated		12/6/57				Died 6/19/61	Myocardial infarction-Post Mortem-no cancer found
W.L.	M	61	12/10/57	CA. right cord, moderately differentiated	Elsewhere Oct. '57					Died 5/24/58	Massive gastric hemorrhage from ulcer, Residual cancer.
M.F.	M	75	4/5/58	C.A. extension left cord	May '58					Died 1/21/59	Extensive carcinoma
F.H.	M	72	4/8/58	CA. right cord, very extensive	June '58					Died 1958	Extensive carcinoma
A.S.	F	53	4/11/55	CA. left cord, very early, well differentiated	10/13/58					L & W	Followed 4/11/55 to 7/23/58. Chronic laryngitis. Polypoid. Malignant changes occurred when under observation.
W.W.	M	68	9/16/58	CA. left false cord, ventricle, moderately differentiated	11/21/58		2/2/59			Died 2/15/59	Wound breakdown and infection postoperatively.
E.W.	M	66	1/3/59	CA. left cord, moderately differentiated, moderately extensive.	March '58					L & W	
H.K.	M	63	5/2/59	CA. extensive larynx and hypopharynx	June '59 1961				1960-elsewhere	Died 9/26/62	Post-Mortem Residual CA.
H.H.	M	64	5/4/59	CA. extensive, hypopharynx	July '59 X-Ray May '60 Cobalt				Nov. '60 elsewhere	Died 1/24/61	Post-Mortem Residual CA.
H.D.	M	55	8/31/60	CA. left arytenoid and false cord				9/21/60		L & W	
J.E.	M	73	10/5/60	CA. well differentiated, right cord.	Dec. '60					L & W	
B.H.	M	65	10/19/60	CA. poorly differentiated, extensive, larynx	Dec. '60					Died 2/22/61	Extensive CA.

Patient	Sex	Age	Date First Seen	Pathology & Location	Radiation Date of Completion	Laryngo-Fissure Date	Laryn-gectomy Date	Laryn-gectomy and Radical Neck Date	Radical Neck Date	Present Status	Remarks
L.K.	M	49	2/7/61	CA. moderately differentiated, left cord.		5/16/61				L & W	Suggested treatment at first visit, not accepted until 5/6/61
L.L.	M	57	2/20/61	CA. left false cord, moderately differentiated			3/13/61		2/26/63	L & W	
W.D.	M	70	2/27/61	CA. left cord, moderately differentiated	5/29/61		8/4/61			L & W	
R.M.	M	55	4/3/61	CA. epiglottis, base of tongue, neck nodes, extensive	June '61					Died '61	Extensive CA.
H.M.	M	70	4/8/58	CA. poorly differentiated, left false and true cords	6/16/58			Apr. '62 elsewhere		Died '62	Postoperatively
M.T.	M	43	7/8/61	CA. left cord		7/19/61		9/12/61		L & W	
P.M.	M	55	7/17/61	CA. localized, early, right cord.	9/8/61					L & W	
D.B.	M	60	9/1/61	CA. right false cord and posterior surface of epiglottis			9/22/61			L & W	
J.V.	M	46	1/10/62	CA. moderately differentiated epiglottis and base of tongue	2/22/62					L & W	
L.S.	M	51	3/8/62	CA. extensive left false cord, arytenoid, ary-epiglottic fold	June '62 Cobalt elsewhere					L & W	
C.K.	M	66	9/12/62	CA. left cord, moderately differentiated	11/8/62					L & W	
C.H.	M	58	11/16/62	CA. extensive, poorly differentiated, larynx, hypopharynx, neck nodes	1/2/63 9/27/63			5/9/63		Died '63	Radiation left neck area 25 years ago for Hodgkin's disease
G.G.	M	48	5/20/61	CA. early, right cord, Previous cord strippings 3 times for hypertropic laryngitis, Diagnosed 5/4/63	7/1/63					Living	Still has hypertropic laryngitis
J.F.	M	64	Dec. '62	CA. left cord	1962 elsewhere					Died Aug. '63	Extensive CA.
R.M.	F	52	2/26/63	CA. poorly differentiated epiglottis, base of tongue, bilateral upper neck nodes.	Started July '63 but not completed			Mar. '63 elsewhere		Died Aug. '63	Extensive CA.
E.E.	M	60	6/26/62	CA. left false cord and true cord, moderately differentiated				5/26/62 elsewhere		L & W	
E.H.	M	61	2/12/63	CA. moderately differentiated left cord	4/8/63					L & W	

Note: All tumors in this series were squamous cell carcinomas.

food passages. When laryngectomy is required, the person involved loses his ability to speak, to communicate verbally with his surrounding world. This creates inconveniences which are entirely different from those found in any other form of surgery, necessitating rehabilitation of the entire patient. The promotion of esophageal speech, speech therapy and "Lost Cord," "Nu Voice," "Cutthroat," clubs throughout the country has done a tremendous job in facilitating rehabilitation of the laryngectomees. The second portion of this discussion, which follows, concerns itself with the development of speech in the post laryngectomy patient.

SUMMARY

Pertinent information relating to cancer which involves the larynx and a resume of the treatment of these lesions in Sioux Falls over a ten year period, along with a critical analysis thereof has been presented. Forty-four of these patients have been seen and treated; twenty-one are now living and the status of three is unknown. Fourteen were subject to laryngectomy; ten of which are living. Two of these patients died in the immediate post operative period; two died later of cancer. Of the laryngectomy patients three have lived for over five years; one has gone four and one-half years; one has gone over three years; four have lived for over two years; and one has survived for over 18 months. Of three patients who underwent the laryngofissure operation, one survives free of cancer over two and one-half years, one died of myocardial infarction but was free of cancer at post mortem three and one-half years after surgery, and one patient required laryngectomy two months later. Radical neck dissection was done at the same time as laryngectomy in five cases; three of which are now dead. One of these was a post-operative death (elsewhere) apparently free of cancer; two other cases (one operated elsewhere) died of cancer later. Subsequent radical neck dissection was required in four instances; once two years after laryngectomy, twice in combination with radiation therapy — one of these patients surviving, and once combined with partial laryngectomy (elsewhere), this latter patient now being dead.

Of the thirty-five patients who have received radiation as the primary treatment, thirteen are known to be living and well. Three of the living patients required subsequent laryngectomy. The status of three other post radiation therapy patients is not known. Of the patients who received radiation alone three have survived five years or more, one has lived three years, one is alive after two years, three are living after one to one and one-half years, and two are living after less than a year post radiation.

The results here would suggest that both surgery and radiation are effective methods of treatment for cancer involving the larynx. Early lesions respond quite well to either method of therapy but advanced neoplasms have a somewhat better prognosis if the primary treatment is radical surgery. The major drawback to surgical treatment of cancer of the larynx by laryngectomy is the extensive rehabilitation of the patient necessitated by this procedure. This obstacle is now being very successfully treated by post laryngectomy clubs and well trained, competent speech therapists.

ADDENDUM: Since this paper was submitted for publication four patients have undergone laryngectomy and three others have been treated by radiation.

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SPEECH THERAPY FOR THE LARYNGECTOMIZED

By

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This paper, the second of two devoted to cancer involving the larynx is a discussion of the problems involved in rehabilitation of the patients. The ideas and philosophies discussed here as well as demonstrations of the techniques of esophageal speech will be presented in a scientific display booth at the annual meeting of the South Dakota State Medical Association, Sioux Falls, South Dakota, June 1 and 2, 1964.

In the preceding article, CANCER INVOLVING THE LARYNX: A CRITIQUE OF TEN YEARS' EXPERIENCE, information concerning causes and treatment and results of treatment of cancer of the larynx were presented. We are now concerned with the rehabilitation of the laryngectomee.

Social and Psychological

Speech is man's principal means of communication. Its codes of words, inflections, pauses, and their arrangements provide the framework with which a human analyzes his behavior, categorizes, compares and plans. Speech even runs through his dreams.

In childhood and as an adult, speaking and listening make up 90% of his waking day.[1] He recognizes and is recognized by his voice. Speech is an integral part of his being, a part of every aspect of his life from lecturing to love-making.

A woman usually is more adept at verbal skills, has a higher, clearer voice than a man. Both men and women use the voice and react to it as a measure of femininity and masculinity, maturity and childishness.

Little wonder then, that when a man or woman is faced with laryngeal cancer surgery and loss of speech, there is a dread of accepting medical care — although it is al-

most always chosen eventually in preference to the sure death which awaits if the cancer runs its course untreated. Laryngectomees can be given courage and help. Most of them can learn esophageal speech. Those who don't may make use of one of several types of artificial larynxes — and even for those who cannot speak, and do not wish to use an appliance, life need not be empty.

A survey by Horn[2] of 3,366 laryngectomees revealed that 79% speak again, 64% entirely by esophageal voice, 5% using esophageal voice but with occasional use of a device, 12% with an electrical or mechanical larynx and 2% not at all.

The most important project of the speech therapist is not to produce speech but to help the pre or post-operative cancer victim realize that, despite his verbal orientation, speech is only one means of communication and organization of thought. The therapist must give the patient hope that he can speak again. However, insistence must not be such that the laryngectomee feels guilty or unworthy if he is unsuccessful. Even if excellent esophageal speech be attained, the speaker cannot rely upon it as much as he did upon his pre-laryngectomy speech. He must change his own ideas of himself to coincide with his altered communication capabilities.

A husband must, in order to be happy, not only be convinced that he is free of cancer, but that he is still the head of the household even though he cannot assert himself by means of his voice. A wife must feel that she is still feminine, even though she breathes through a hole in her neck, and her voice, if she speaks, is lower than the usual male voice.[3]

It is imperative that some member of the laryngectomee's family be included in this reassessment. One means frequently employed is group therapy, which combines direct counseling and social activities. Since the attitude of the mate is very important, the husband or wife should be specially encouraged to attend therapy meetings, view films, and discuss difficulties with counselors and friends.[4]

Speech Training

Although we assume that about eighteen percent of laryngectomees will not learn to speak esophageally, there is no sure criterion

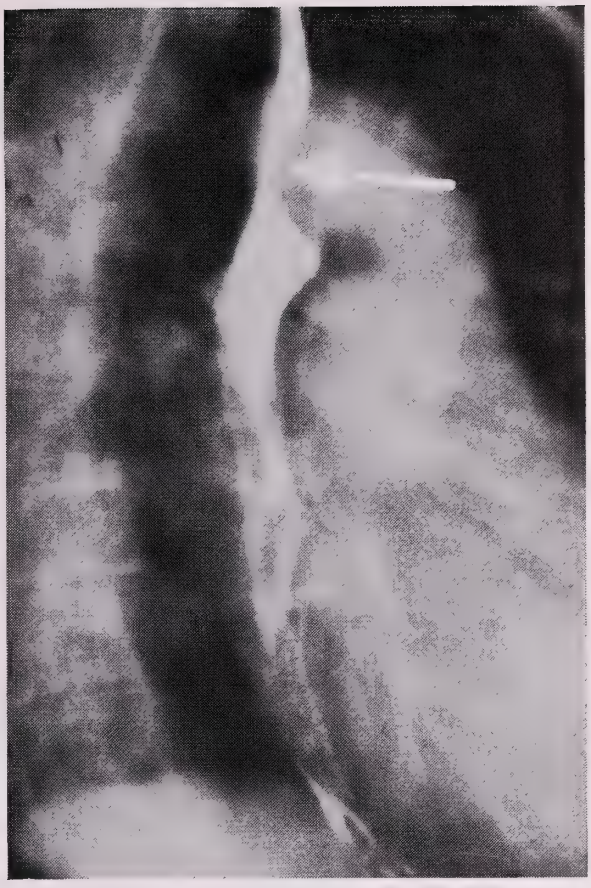


FIGURE #1

Esophogram showing mild obstruction to the upper esophagus by a prominent aortic arch, probably the result of arteriosclerosis. (Arrow points to constriction.) This could cause some esophageal obstruction in the production of post-laryngectomy speech.

to determine those who will not. Variations in ability to control the esophagus are one factor. (See Figure #1) Hodson and Oswald[5] discussed the relationship between the control of the cricopharyngeal constrictor and speech and Gregg[6] has mentioned the effects of neuromuscular dysfunction of the lower esophagus on esophageal speech. (See Figure #2)

Such difficulties are sometimes a factor, and also no doubt so are the after-effects of surgery. However, if a patient wishes to develop esophageal voice he should be given encouragement to try, with the assurance that he can and may use an artificial appliance whenever he wishes.

The surgeon may recommend that speech training begin before or after surgery, depending upon circumstances. Regardless, the patient must be told that his normal speech

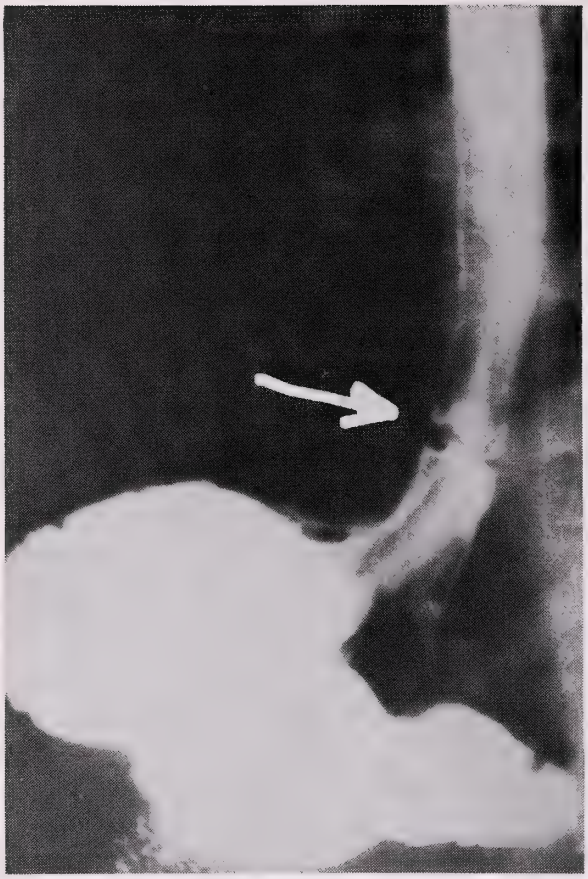


FIGURE #2
Schatzki's ring involving the distal esophagus. (Arrow indicating point of narrowing.) This neuromuscular dysfunction has been found in an instance of a post-laryngectomy patient who had difficulty developing post-laryngectomy speech.

will be gone after the operation. If he is not so informed, psychological trauma often is severe. Despite pre-operative information relating to voice loss and post-operative encouragement, it is common to observe quite profound depression in the immediate post-laryngectomy patient.

Whenever the surgeon deems it feasible, a visit by a good alaryngeal speaker prior to the operation usually helps lift the patient's spirits and convince him that speech is possible.

Speech therapy should begin as soon after surgery as the conditions permit. Therapy will help offset depression, especially if immediate gains are made, and will prevent the patient's developing improper speech habits.

Esophageal speech is produced by two basic methods, although there may be minor variations.

1. Air is swallowed, pushed back or compressed behind and below the root of the tongue. It is then released, causing vibration of the wall of the upper esophagus, the pharynx and the tongue root. The resultant sound is articulated as speech.
2. Air, instead of being compressed from the oral cavity downward, is forced upward from the lower esophagus by a reverse peristaltic movement of the wall of the esophagus aided by pressure from the stomach. Stomach pressure is produced by tightening of the abdominal wall. Air moved upward by this method produces sound wherever the esophagus is constricted enough to vibrate, especially at the crico-pharyngeal constrictor, where it is articulated as speech.

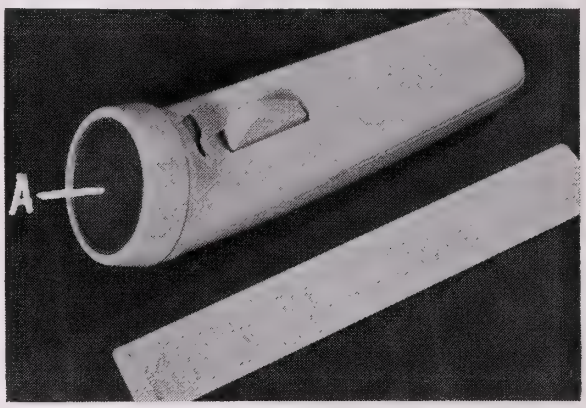


FIGURE #3
Electric larynx used to produce alaryngeal speech. When the vibrating head (A) of the unit is applied to the exterior of the throat, its oscillations are transmitted to the pharynx within which the sound is modulated and subsequently emitted as speech.

Some persons who cannot master the first technique produce sound by the second, although, with the second method there is usually considerable blowing from the tracheal stoma, detracting from the speech and obscuring the consonants.

Esophageal speech, if acquired, is generally developed quickly when immediate therapy is available. Refinements continue for years. If immediate help is not available, the laryngectomee may, through lack of motivation, fail to speak as well as he should, give up speaking altogether, or become too dependent upon whispering or writing.

Artificial Larynxes

Although most laryngectomees prefer to

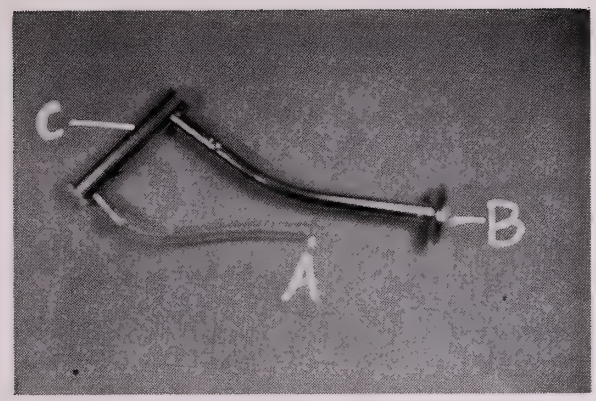


FIGURE #4
Reed type of pneumatic larynx. When air from the tracheotomy stoma is blown into the instrument at (B) it causes vibration of a reed (C), the resulting sound being transmitted to the oral pharynx (A) by the plastic tube. Here it is modulated into words.

produce "their own" voices, some cannot, others do not. For those who must use artificial larynxes, two types are commonly used today, the electrical (See Figure #3) and the pneumatic. (See Figure #4)

The electrical larynx is a vibrating buzzer which is placed on the throat or cheek. The sound produced is resonated in the oral cavity and articulated as speech.

The pneumatic instrument utilizes the airstream from the tracheal stoma to vibrate a reed. This vibration is transferred by a plastic tube to the oral cavity where it is resonated and articulated.

Although laryngectomees often ridicule one who uses an artificial larynx and therapists generally try to discourage its use until speech therapy proves unsuccessful, it is doubtful that the use of an artificial larynx delays acquisition of esophageal speech if the patient receives immediate post-operative therapy.[7]

Occupation

Frequently laryngectomees are found to have dropped somewhat in occupational status and in earning power. Older persons sometimes accept semi or total retirement earlier. Able bodied men sometimes find it necessary to change occupations or are released from their jobs — too often unnecessarily. Most laryngectomees, if accepted by their co-workers and given the opportunity to prove themselves can continue in their former jobs. For an interval post laryngectomy he may have trouble lifting heavy weights until he learns to close the stoma with exertion to increase the intra-thoracic pressure. He also must learn to care for the tracheal stoma and airway carefully, especially in the Winter. The laryngectomee is not an invalid. It is extremely important that he and his employer understand this. (See Figure #5)

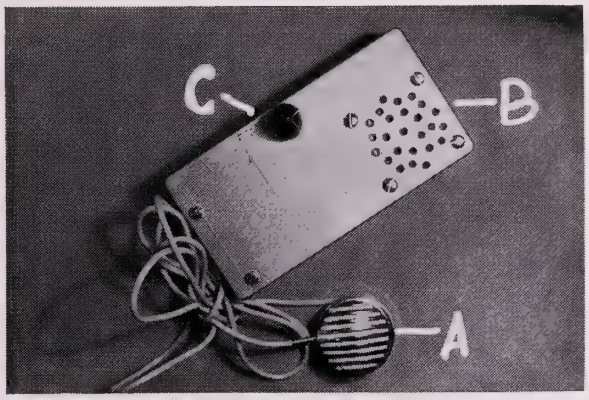


FIGURE #5
Electronic amplifier for use by the laryngectomee to amplify his voice in noisy environments such as that of an automobile with the window open. The voice is projected into the microphone (A) to the amplifier the volume of which can be controlled by switch (B) and thence out the speaker (C) to the recipient.

Nu Voices of South Dakota

Mrs. Lucille Dory, Executive Vice President, American Cancer Society, South Dakota Division, was instrumental in organizing the Nu Voices Club of South Dakota in September 1961. At present there are approximately thirty members. Meetings are currently held in Aberdeen, South Dakota, and at the University of South Dakota Speech and Hearing Clinic under the sponsorship of the American Cancer Society. Individual therapy, group therapy, movies, and social events are combined.

Mr. Pete Miesen, Zell, South Dakota, President of Nu Voices, a fine alaryngeal speaker and others are available for speeches regarding the problems of the laryngectomee, and for demonstrations to interested groups. Inquiries relating to membership, etc., should be addressed to:

Mrs. Lucille Dory — Watertown, S. D.
Mr. Pete Miesen — Zell, S. D.

or to the authors. Catalogues for films, appliances and literature relating to this subject may be obtained from Mrs. Dory.

SUMMARY

Post laryngectomy speech is both possible

and practicable for the individual upon whom extirpation of the larynx is necessary. Many physical, physiological and psychological changes must be made to enhance rehabilitation of the entire person. If esophageal speech cannot be developed, even with skilled assistance, mechanical devices are available for communication. Development of esophageal speech has been enhanced tremendously by improved speech therapy techniques and through the establishment of organizations such as the "NU VOICE CLUB OF SOUTH DAKOTA." As long as laryngectomy must remain a tool in the armament of the surgeon in combatting cancer of the lower throat, these facilities must be developed and facilitated.

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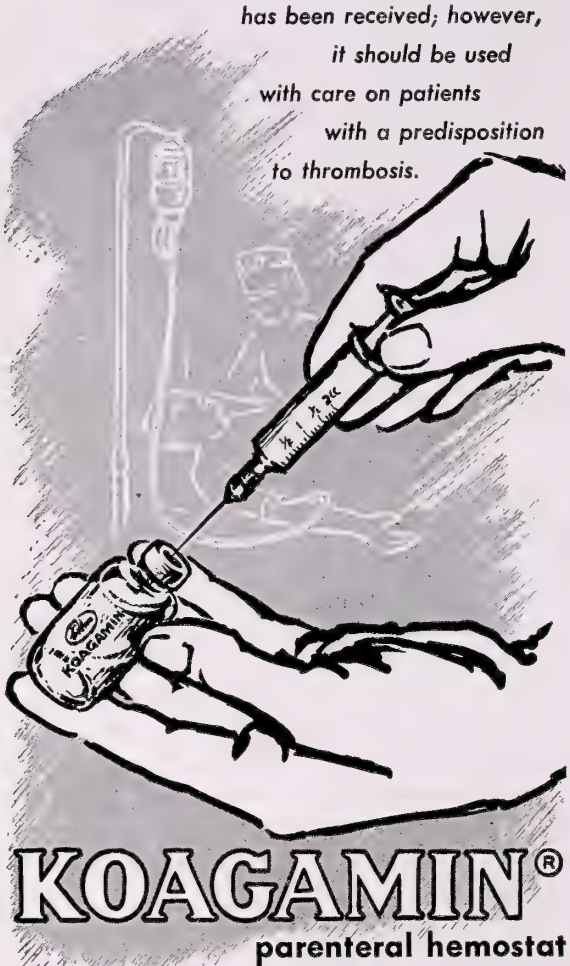
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TECHNIQUES OF PANCREATOGRAPHY*

By

Bernard C. Gerber, M.D., F.A.C.S.

Professional Arts Building

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* Presented in part at Annual Session, South Dakota Chapter, American College of Surgeons, Sioux Falls, South Dakota, January 12, 1963.

A procedure to produce x-ray opacification of the pancreas and its drainage system by oral or parenteral means would be of inestimable value in the diagnosis of pancreatic disease. Until such a procedure is available, we must rely upon operative pancreatography for radiologic visualization of this gland.

Wide experience with operative pancreatography, performed by various techniques, has been achieved by relatively few surgeons. Regard for the procedure ranges from one of outright condemnation to overwhelming enthusiasm. Properly performed operative pancreatography can add greatly to intelligent operative therapy of chronic pancreatic disease.

The first reported attempt at pancreatic ductograms was in 1947 by Doubilet and Mulholland,[5] who injected Diodrast via a plastic tube in the pancreatic duct. Since that first report several operative methods have been described which adequately visualize the pancreatic ductal system. The indications, techniques, and interpretation of this examination will be discussed.

INDICATIONS

Operative pancreatography should be performed in all cases of recurrent pancreatitis in which a normal biliary tract is demonstrated at surgery or the biliary tract findings do not explain the attacks of pancreatitis.[7] Doubilet believes the presence of pancreatic calcifications makes operative pancreatography mandatory.[3] Roentgenographic visualization of the pancreatic ducts should



FIGURE I
Retrograde Pancreatogram demonstrating severe strictures and dilatation of duct. Note negative shadow of large calculus.

be carried out prior to performance of a drainage procedure upon the pancreas and the peroperative findings used as a basis for selection of the proper method of draining the pancreas. This study may also be carried out rather easily during biliary surgery in patients who have had one or more attacks of pancreatitis associated with biliary tract disease. Pancreatographic studies conducted in such cases may indicate a need for concomitant sphincterotomy.

METHODS

There are five principal methods which one may use for operative pancreatography. These are: Intubation of common duct during cholangiography; intubation of the pancreatic duct following transduodenal sphincterotomy; retrograde intubation of the duct; needle puncture; or indirect intubation through a pancreatic fistula. Each of these methods will be discussed in detail.

TECHNIQUES

Prior to carrying out pancreatography it is advisable to remember some of the facts concerning normal pancreatic ductal pressures. Awareness of these pressures may help prevent severe extravasation of the contrast media with possible resultant acute pancreatitis.

Hallenbeck[6] has demonstrated that pancreatic intraductal pressures in anesthetized animals may reach 30cm. of pancreatic juice after secretin stimulation. However, unobstructed ductal pressures in unanesthetized animals will reach a mean of only 9.1 cm. Studies of pancreatic fistulas in man indicate that the resting pressure is in the neighborhood of 270 mm of water.[4]

Diodrast 35%, Urokon 50%, or Neo-iopex may be used as a contrast medium. It is probably best not to use 70% Diodrast unless one desires to opacify the entire pancreas for a specific reason.

Visualization of the pancreatic ducts may be carried out rather easily during biliary tract surgery by passing a small polyethylene tube through the cystic duct. Ten to 15mg. of morphine sulfate is then injected intravenously.[7] Ten seconds later ten cubic centimeters of 35% Diodrast is injected and two x-ray films taken. Alternatively, 30CC. of 0.1N HCL may be placed on the ampulla of Vater (by means of a Levin or Rehfuss tube) and the contrast media subsequently injected. This later method is that preferred by Doubilet[4, 12] in performing several hundred of these studies. The morphine or HCL serves to place the sphincter of Oddi in spasm and cause the media to flow up the pancreatic duct in a retrograde fashion.

If, in the course of biliary tract surgery, or as treatment of pancreatitis, duodenostomy and sphincterotomy are performed, pancreatography may be done without much added difficulty. In the presence of a common passageway, which is present in the great majority of cases,[8] the duct of Wirsung opens on the posterior wall of the common bile duct (or ampulla of Vater) 1 to 6 mm above the papilla. This opening can be identified by probing or watching for the flow of pancreatic juice, and is often covered by a flat fold of mucosa. If necessary, flow can be increased by an intravenous injection of secretin (100 units). A fine polyethylene tube is then threaded up the duct of Wirsung for 4 to 6



FIGURE II
Retrograde Pancreatogram showing several strictures and early dilatation of duct.

mm. Five to ten cubic centimeters of contrast media is injected slowly and a film is taken during injection of the final two cubic centimeters. Excessive media can escape into the duduodenum alongside the tubing. If desired, the tubing may be threaded up the common bile duct and out the wound alongside the T-tube, to be used for further studies or treatment.

Retrograde pancreatography is usually performed at the time of a planned surgical attack on chronic relapsing pancreatitis. Following mobilization of the tail of the pancreas, the tail is divided transversely until the duct is encountered. A fine polyethylene tube is threaded into the duct and held in place with a fine silk suture. Because of the possibility of ductal obstruction in these cases, I prefer to inject only 2-3 cc or introduce the media by gravity flow.[2] This will prevent extravasation of media into the pancreatic substance. (Fig. 1 & 2)

An alternative method is that proposed by Partington and Rochelle,[9] in which the dilated duct is located by palpation of the pancreas. A needle can then be introduced into the duct to permit dye injection.

If the duct cannot be palpated, a wedge of pancreatic tissue may be excised from the body of the pancreas to expose the duct. A needle or polyethylene catheter may then be passed into the duct. The area of this excision may then be used for performance of a pancreato-jejunostomy as proposed by Cattell and Warren. (Fig. 3)

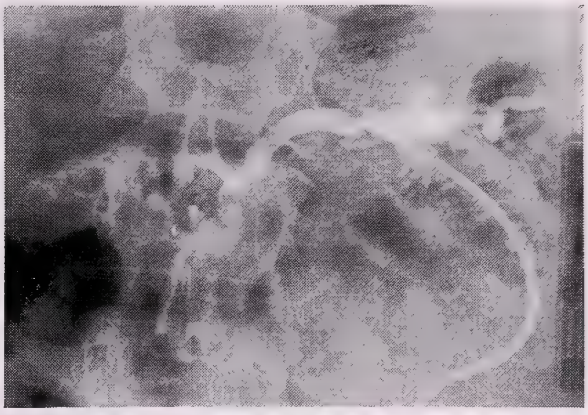


FIGURE III
Pancreatogram performed through a T-tube placed in pancreatic duct. Note size of duct and multiple calculi.

DUCTAL ANATOMY

To properly interpret a pancreatogram the features of the normal must be constantly kept in mind. Most of our knowledge of the normal pancreatic ductal system is the result of x-ray studies done immediately postmortem.[1, 2, 8] It should be noted that the caliber of the pancreatic duct increases slowly with age. Between the ages of 20 and 30 years the mean maximal diameter of the duct is between 3.3 and 3.5 mm. It increases successively and reaches a diameter between 5.0 and 6.0 mm. after age 70.

The largest caliber of the duct is almost invariably situated in the head of the pancreas. The caliber of the duct decreases peripherally to almost zero at the tip of the pancreatic tail. A short constriction is very commonly present in the segment adjacent to the orifice of the duct.[8]

ABNORMALITIES

Various abnormalities may be demonstrated with operative pancreatography. Probably the most common obstruction is at the ampulla. Single or multiple strictures may

appear within the body or head of the gland and are usually associated with dilatation distal to the stricture. Stones within the duct are easily identified.

At times operative pancreatography is the only method of identifying pancreatic cysts. A pancreatic cyst located in the mediastinum has been demonstrated with this method by Doubilet.[5]

Operative pancreatography has been rather disappointing in the identification of small pancreatic tumors. One case has been described in which a small carcinoma adjacent to the main pancreatic duct was discovered by operative pancreatography. This patient was still alive and in good health four and a half years after resection.

Attempts at identification of tumors by opacification of the gland parenchyma have not been very fruitful.[11] The parenchyma of the gland may be opacified by taking another film about ten minutes after the first injection, or by using 70% Diodrast. The Diodrast irritates the ductal system and then more easily permeates through the wall into the gland substance. Similar opacification of the gland is seen in the presence of acute pancreatitis, a time when the duct wall is more permeable than normal.

COMPLICATIONS

Complications of operative pancreatography are probably not as common as many originally predicted. Failure to intubate the duct through the ampulla could probably be classed as a complication. Puncture of the duct with the tubing and consequent injection of the dye directly into gland parenchyma may result in acute pancreatitis.

The actual incidence of acute pancreatitis following this procedure is difficult to determine. Hayes[7] reported 18 procedures with no complications. Pollock[10] had two cases of acute pancreatitis with one death while doing 11 pancreatograms. He has abandoned the procedure, partly because of the complications. Doubilet[3, 4, 5] has done several hundred operative pancreatograms, but does not report a complication rate.

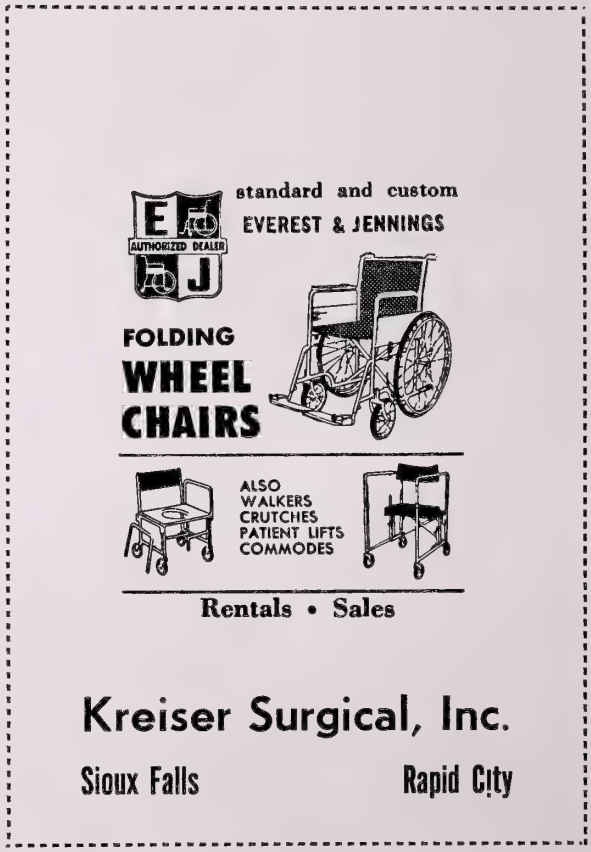
SUMMARY

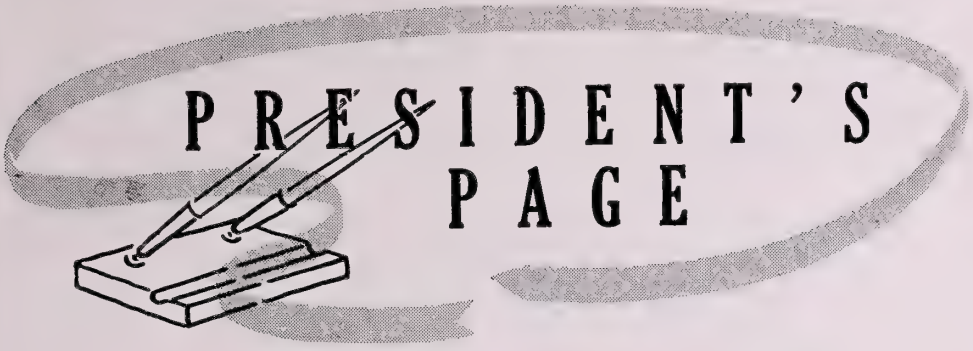
Operative pancreatography can be a very useful diagnostic tool in the management of chronic pancreatic diseases. An understanding of normal pancreatic anatomy and ductal pressures will aid in the intelligent utilization of this procedure. The technical details are relatively easy to master.

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Editor's Note: Due to space limitation, the remainder of the references have been omitted. They may be requested from the Journal office, 711 N. Lake Avenue, Sioux Falls, S. D.







Dear Fellow Members:

On April 13, 1964, it was my pleasure to travel to Vermillion to visit our University Medical School. I was pleasantly surprised at the appearance our University gave. Dean Walter Hard, his Staff, and our students were most cordial.

As you might guess I found that Medical Schools had changed. I didn't really believe that it could do so that much in fourteen years, but then I realized that I was getting older and medicine and its teaching was progressing. They don't use the conventional microscope now — it's an electron microscope. The cell isn't the same any more since we can see more with a better microscope, hence its anatomy is taught differently. Teaching of Bacteriology has certainly changed radically — it is now almost all Biochemistry and Immunology. I did find that although Dr. Hard's Staff was research oriented they were primarily teachers.

The next phase of the student's education also begins at our University. The clinical teachers are for the most part our colleagues — fellow M.D.'s who devote a lot more time than we can appreciate and yet practice medicine.

In October 1963 the Medical School Accreditation Committee visited the University and spent one week examining the program, facilities, Staff and students. You will note at the Annual Meeting that your Medical School Affairs Committee makes a report on this in detail. In brief, they are satisfied that we have a good medical school in South Dakota.

One thing that concerned me greatly was this Accreditation Committee and its business. It is comprised of medical school deans, some nonmedical teachers, and one practicing physician from the A.M.A. An issue arose in which I felt the South Dakota Medical School and the practicing physicians of South Dakota were right—the question of our preceptor program. I detected that the Committee, other than the practicing physician on it, was in favor of subjects which would force the abandonment of the preceptor program. HERE IS THE DANGER

As practicing physicians we do not have enough influence at this very important level to change medical school policies in any medical school in our United States. Don't misunderstand me. We practicing doctors should not run medical schools because this could be like an Army run by friends of Senators. However, we must have some critical opinions heard by this committee with a possible basis for a decisive vote and action to follow. At present you and I can convince Dean Hard by honest endeavor; he can believe in our opinion; and yet does not dare violate the Accreditation Committee's proposals. I think we should give serious attention to changing the structure of this Medical School Accreditation Committee. Of course this must be done far above us — at A.M.A. level. I do believe in accreditation and the work of the Medical School Accreditation Committee, but I feel that the check and balance system is not well arranged here.

This is only a part of the work that we must do in South Dakota for our University Medical School. These fine people need an expanded building program. They need an auditorium, an expanded Medical Library, an adequate experimental animal facility, which is now nonexistent. Not only do they need these physical things, they also need our support, both financial and personal.

Towards this last end I am certain that we as physicians are confused about the money we contribute to the AMA-ERF funds. I feel that the Medical Affairs Committee's letter to all of us should be read carefully and acted upon. Apparently if one of us wishes to give money to lend to students at South Dakota University then we should send it to South Dakota Medical School Endowment Association. I, personally, have been confused and felt that my AMA-ERF contribution covered this. Pardon the lengthiness of this so called one-page editorial. However, to convey to you the gravity of the situation, the great need, and the sincere teaching of our University Medical School, it was possible to do so only in a more detailed fashion. My words, I hope, will serve as a tribute of thanks to our fine University Medical School Staff.

Fraternally,

Robert H. Hayes, M.D.

MINUTES OF THE COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION & HOSPITALS

Medical School
Vermillion, South Dakota
March 21, 1964

The meeting was called to order by the Chairman, **T. H. Willcockson, M.D.,** at 2:00 P.M. Present for roll call, in addition to Dr. Willcockson, were **Drs. T. J. Wrage, Warren Jones,** and **E. T. Lietzke,** Walter Hard, dean of the medical school, and Richard C. Erickson, executive secretary, were also in attendance.

On motion, duly made and seconded, it was agreed to dispense with the reading of the minutes of the previous meeting inasmuch as they had been published.

The Committee discussed the financial report of the Endowment Association and it was approved as presented. The executive secretary was instructed to set up a separate ledger for the contribution made to the Fund by the 7th District Medical Society. The amount of $26,615.27 is earmarked for loans to South Dakota students and separate records should be kept on this amount. The Committee asked that future financial reports indicate the amounts loaned out of the special fund. All loans, in general, were then discussed.

The problem of the loans due from Robert Yauk, deceased, was discussed. Dr. Jones moved that the Committee investigate the father's financial situation and asked that the executive secretary conduct the investigation, utilizing regular banking channels. The motion was seconded by Dr. Wrage and passed unanimously. It was also suggested that the executive secretary investigate the possibility of re-insuring student loans, utilizing the life insurance method, and to report back to the Committee on his findings at the next meeting.

Dr. Jones moved that the annual letter requesting donations from South Dakota physicians be sent out as soon as possible. The motion was seconded by Dr. Lietzke and carried.

The executive secretary was instructed to write a letter to each District Society secretary, shortly after the annual meeting, asking that their District give due consideration to donations to the Endowment Association.

The Committee also indicated that a second letter requesting donations should be sent to all South Dakota physicians around the first of December.

The Committee requested that they be allowed five minutes at the second House of Delegates meeting to present facts and figures on the Endowment Association.

A discussion followed concerning the method of admission to the School of Medicine at the University of South Dakota, and the recent survey of the Medical School, which was held in October.

Small hospital audits were discussed. Dr. Jones and Dr. Wrage were appointed to investigate criteria for inspecting small hospitals not accredited by the Joint Commission. They were asked to report back to the Committee at their next meeting on Sunday, May 31.

A motion was duly made and seconded that Dr. Willcockson send a letter to each District Society secretary, indicating that Dean Walter Hard will be available to speak at District meetings around the State.

The meeting adjourned at 5:00 P.M.



PHYSICIANS AND SOCIAL SECURITY — A PARADOX

(PARADOX — Something apparently incredible or absurd, yet true.)

During the meeting of the visitation of the President, Doctor Robert Hayes, to the Seventh District Medical Society the question was raised from the floor as to the attitude of the state association toward Social Security for physicians. The group was polled to determine exactly how many members are now covered by Social Security, that is, have enough quarters of salaried or other extra-medical employment so as to be eligible for benefits. Of thirty-two physicians present seventeen admitted that they now have coverage under this program and some did not know their status. A vote to assay the sentiments of the entire group regarding the question showed only three who favored compulsory Social Security coverage for physicians.

It is amazing to find how many physicians have in the past contributed to this program and how many are now eligible or about eligible for full "benefits" under it. If this proportion of one district society of the state has coverage under Social Security, the total number of physicians in the state having similar coverage must be quite high. The mere fact of availability does not necessarily mean that all will partake in the program. But if it is so desired, this can be a factor in retirement planning. Human nature being as it is, few of those who are aware of being eligible for Social Security will fail to take account of this coverage in compiling their insurance programs and plans for retirement. Many instances of long forgotten work as a clerk in a store during high school days, part time Summer employment, time spent in the U. S. Armed Forces, and certain investments or subsidiary sources of income will have been subject to Social Security taxation. One of the "benefits" of the new medical incorporation law is the availability of Social Security. The tax collected from all these sources gives credit toward retirement or other "benefits." Thus, many physicians are now consciously or unconsciously, involuntary, card carrying, paid up participants in that which as of this minute they are encouraged to be against.

The majority of the Social Security eligible physicians of the Seventh District were of the younger age group. The potential "benefits" from this coverage, regardless of the total dollars contributed, are very significant to the young doctor with a growing family just starting practice. Should he die prematurely, the income to his family in terms of payment to the wife while the children were growing, and then retirement income to her after age 62 years, under the present law, would be comparable to that realized

from about a $50,000.00 life insurance policy. It is this younger group of doctors who would eventually pay the most into Social Security if this program were universally adopted by the physicians now. Conversely, some of the most earnest protagonists for physicians joining Social Security are those who will soon become eligible for benefits and who would contribute the least toward the program.

To date the main arguments against Social Security for physicians have come from a vociferous group who purport to speak for the entire medical profession. Their main argument has been that this program is socialism and is against their principles. However, principles as everything else in life must occasionally be re-evaluated in the light of current circumstances to be certain that their tenets hold true. At the present time all other professional groups have sought or are seeking coverage under Social Security. These include the dentists, lawyers, accountants and members of the clergy. These professions also long resisted the advances of socialism and regimentation but eventually capitulated. Are the physicians next?

It is not the intent here to argue this issue pro or con. It is the purpose of this discourse to stimulate the interest of all physicians so that they may critically examine their past work experiences and their own consciences in regard to this question and decide whether there is the need for a change in the thinking of the entire medical group toward this problem.

J. B. Gregg

OB-GYN BOARD NOTICE

Applications for certification in the American Board of Obstetrics and Gynecology, letters requesting reopening of applications, and requests for re-examination are now being accepted in the office of the Secretary. All applications and letters of request must be submitted by July 1, 1964, and accompanied by duplicate lists of patients dismissed from service for the twelve months immediately preceding application.

Candidates are urged to carefully review the current Bulletin of the Board, with particular attention to the existing requirements before application is made.

Bulletins may be obtained by writing to the office of the Secretary.

Diplomates are urged to keep the Board office informed of their current address.

Clyde L. Randall, M.D.,
Secretary-Treasurer
American Board of Obstetrics
and Gynecology
100 Meadow Road
Buffalo 16, New York

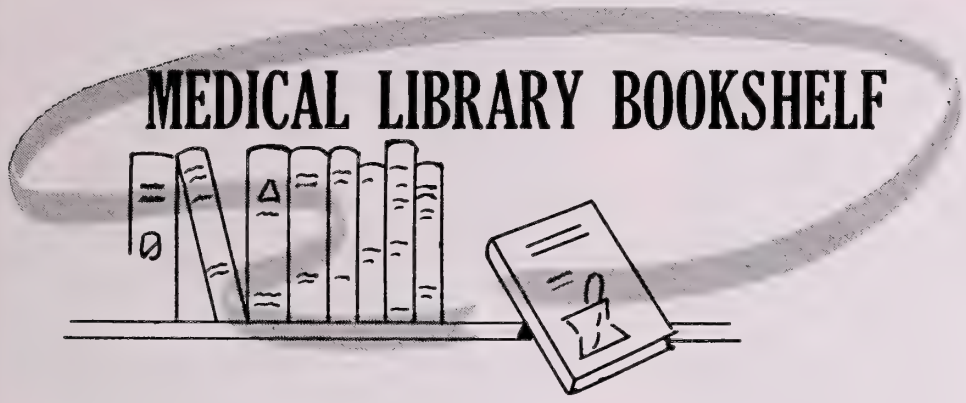
H. C. DEILY, M.D.

1879—1964

Henry C. Deily, M.D., who served the Emery, South Dakota, area for more than fifty years, passed away on March 20th.

Dr. Deily was born at Marquette, Iowa on November 17, 1879. He received his early education in Marquette and later completed a course in pharmacy in Des Moines. He then entered medical college at Iowa City, from which he graduated in 1908.

During the summer of 1908 he started his practice in Emery. In 1909 he married Mabel Bernatz, who survives. Other survivors include three daughters, four sons, twenty-three grandchildren, and two great-grandchildren.



SPACE PROJECTS

Captain Frank Voris from the National Aeronautics and Space Administration, Washington, D. C. was the speaker at the annual SAMA sponsored dinner held at the Minnehaha Country Club in Sioux Falls on April 4th.

Captain Voris received his M.D. from the University of Illinois College of Medicine in Chicago in 1934 and was licensed by the American Board of Preventive Medicine. He is a liaison member of the Study Group on Gaseous Environments for Spacecraft Man in Space, Space Science Board.

From a background of experience and understanding of the many problems and physiological requirements of man in space, Captain Voris gave a fluent and fascinating account of the research and experimentation that is being undertaken. His explanation of the many benefits that will result for mankind from the projects that are planned seems to justify the staggering costs and the tremendous scientific efforts involved.

Some of the information presented by Captain Voris in his talk is to be found in an article in **Federation Proceedings** v. 22, July-August 1963, p. 1051. In this article, "Future Operational and Physiological Requirements for Man in Space" he predicts that in the immediate future "long-term orbiting vehicles will circle the earth for periods from 2 to 3 months to several years. Men will live and work in these vehicles for 30 days or longer with crews replaced at regular intervals. Physical and biological experiments will be a large segment of the payload, and scientists will be members of the crew assigned to perform and monitor biological experiments, using both man and animals as subjects."

The selection of atmosphere is all important. At present all intravehicular atmosphere in manned space vehicles is 100% oxygen at 5 psi. This includes project Gemini and Apollo vehicles. The atmosphere of future vehicles may be changed as a result of research after many combinations of gases at various pressures have been thoroughly investigated.

Captain Voris stated that project Gemini, which will be preparatory for the lunar flight Apollo, will be based on the technical and operational experience proven during the earlier U. S. and Soviet manned flights. There will be a series of flights from 2 days to 2 weeks duration. This will be a flight of 2 men; there will be the accomplishment of inter-vehicular space rendezvous, and of

extra-vehicular manned operation, and the accomplishment of landing on land under manual control.

The suit will be all important and takes on the task of being primary for life support. In this project man will move outside the space craft during the 2 day rendezvous mission.

Food and water requirements are being studied. In flights of long duration probably powdered food will be used with a reconstitution of body wastes possible. For psychological benefits probably a chicken bone or a hamburger will be included so the astranaut will not forget his earthly connections.

A moving picture was shown at the end of Captain Voris' talk which explained the Apollo lunar mission. The Apollo spacecraft will contain 3 crewmen and when the complex has reached lunar orbit 2 members of the crew will transfer to the lunar excursion module (LEM) and proceed to accomplish the lunar landing. After a period on the moon the LEM will be launched from the lunar surface. A rendezvous will be made with the Apollo spacecraft and the 3 man crew will then return to earth, jettisoning the Service Module before reentry, completing the mission in 14 days.

In Captain Voris opinion there was no prospect of anyone outside the aeronautic or scientific field making a trip to the moon in the lifetime of the present generation. However, the prospect of carrying out the late President Kennedy's prediction of a lunar mission in this decade is a decided possibility.

Esther Howard
Medical Librarian

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The following letter of explanation was received along with this picture from Dean Walter Hard of the School of Medicine.



Front Row, l. to r.: William Monahan; Tom Looby; Richard Tenney; Hal Werner; Dean Walter Hard, Coach. Back Row: Markham Fischer, James Scherbenske, Ren Whitaker, Dan Duick, Douglas Henriksen, John English.

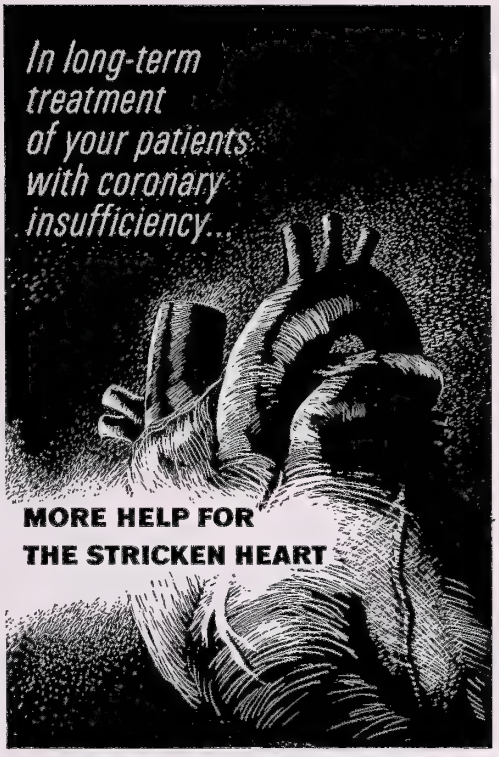
"I send the photo to prove that our medical students excel not alone in academic ability but athletic performance as well. This is the team which won the University intramural basketball championship.

Rumors are circulating that Dean Hard will be nominated for 'Coach of the Year' award. There is no truth to the rumor that we are offering only athletic scholarships. The University needs that talent."

Sincerely,
Walt Hard

THOUGHTS ABOUT ANTIBIOTIC COMBINATIONS

In looking at combinations of antibiotics we have seen the contributions made by following scientific curiosity. We have seen how this curiosity can be directed so that it leads to applications in disease. We have seen that these applications have to be measured by what they will do for man. We have seen that some pass the test and are widely used, whereas others fail to pass or are poorly measured. We have seen that the combined will of doctors can enforce the results of the measurement. We have seen that such leadership is desired by the majority of pharmaceutical manufacturers and that when it is given, they will respond to it. — Harry F. Dowling, M.D., in **Transactions & Studies of the College of Physicians of Philadelphia,** July 1963.



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■ plus meprobamate to decrease anxiety and tension

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NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverb

The closer the friend, the greater the ability to hurt you.

NEWS NOTES

The 41st Annual Conference of the American Physical Therapy Association will be held in Denver, Colorado, July 5 through July 10, 1964. The conference hotel will be the Denver-Hilton.

* * *

S. W. Fox, M.D., Pierre, attended an Aviation Medical Examiners Seminar in Kansas City, Missouri, recently.

* * *

F. D. Leigh, M.D., Huron, attended a course in clinical allergy March 9 - 21 at Temple University Medical School and the University of Pennsylvania Postgraduate School in Philadelphia, Pennsylvania.

Walter M. Gysin, M.D., Board certified neurologist and psychiatrist, has recently joined the Bartron Clinic in Watertown.

Dr. Gysin was born in Berlin, Germany and educated in Berlin, Munich and Freiburg, Germany. Prior to joining the Watertown staff, Dr. Gysin was associated with the Lutheran Community and Lady of Lourdes hospitals in Norfolk, Nebraska.

* * *

R. C. Jahraus, M.D., was elected president of the Fourth District Medical Society at the March 26th meeting. Vice president is R. J. Zakahi, M.D., and Secretary-Treasurer is J. T. Cowan, M.D.

YANKTON DISTRICT MEETS

The Yankton District held a meeting on January 28, 1964. **Thomas Skillman, M.D.,** Associate Professor of Medicine, Head of the Endocrine Section and Metabolic Unit, Creighton University School of Medicine, presented "Diagnosis of Endocrinologic Disorders, a Practical Approach."

New officers elected were:

President —
R. J. Foley, M.D., Tyndall

Vice President —
R. F. Thompson, M.D., Yankton

Secretary —
D. Max Reade, M.D., Yankton

Treasurer —
George Knabe, M.D., Vermillion



GARY OMODT, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



PHARMACY A CENTURY AGO*

As chronicled in The American Druggists Circular

by

Laurence D. Lockie
Buffalo, New York**

A year or so ago, our collection of historical material at the School of Pharmacy was enriched by the addition of a bound volume containing most of the first two years of this journal (1857-58). This was contributed by an alumnus, Victor X. Dozoretz, of the class of 1936. On examination, it seemed to me that a review of the pages therein could give us today an insight into the pharmacy of that time, over a century ago.

Henry Bridgman, of Bridgman & Company, Apothecaries and Druggists, 155 Grand Street, New York City, was the founder and first publisher, but soon, (in August 1858) sold his interest to L. V. Newton. This early trade journal continued in existence until 1939, when it was merged with **Drug Topics.**

Its title proclaimed it to be **The American Druggists Circular and Chemical Gazette** — A Practical Journal of Chemistry as applied to Pharmacy, the Arts and Sciences; and General Business Organ for Druggists, Chemists, and Apothecaries and All Branches connected with the Drug Business. The masthead listed Terms $1 a year, in advance. Club rates were also given. Postage was only 6 cents a year; Advertisements, 10 cents a line per insertion. The first issue was for January 1857.

A very ambitious and broad prospectus was included, from which one quotation will suffice. "The object of this journal is to promote the acquisition and circulation of early and authentic intelligence on **all** subjects connected with our profession. While its chief aim will be to render it useful to the Druggist, Chemist, and Apothecary, it is also intended to make it such a journal as will be sought for, and indeed will be found indispensable to all persons indirectly connected with our calling. It will preserve the features of a scientific journal and be, at the same time, a general business paper of the trade."

While the format of the journal varied as it grew, and some of the early headings and departments disappeared and new ones appeared, there developed an over-all picture which became fairly stable.

1. **Leading articles.** These were not featured in the same way that modern journals do, in fact, it was somewhat difficult to draw the line between leaders and followers at times, as they shaded downwards, and the same size and type headings were used for all. But it was this group which contributed the most to the over-all picture of the times.

2. **Trade Arcana.** Under this heading ap-

*Presented before the Section on Historical Pharmacy, American Pharmaceutical Association, May 14, 1963.

**Professor of Pharmacy, State University of New York at Buffalo, School of Pharmacy.

peared short articles, predominantly formulae but also ideas for the improvement of the taste, appearance and methods of preparation for the galenicals and chemicals of the time, as well as formulas for inks, photographic solutions, etc.

3. **Legal notices.** Records of injunctions, judgments, and court cases which pertained to pharmacy.

4. **There were a number** of groups of short articles under such headings as Gleanings, Excerpta Minora, Odds and Ends, Past Times, most of which could be properly described as fillers. Some of these were quite interesting and revealing.

5. **Lists** of new Pharmacal, Chemical, and Medical books.

6. **Notes and Queries.** Of course, this grew rapidly. The first issue, however, consisted principally of acknowledging $9 in subscriptions.

7. **Directory** of Wholesale Drug Houses in New York City.

8. **Advertisements.** These also were few at first, but grew rapidly, and gave quite a revealing picture of the times.

The apothecaries and druggists of the United States were at this time probably near the peak of the era when they made most of the pharmaceuticals (galenicals) which they dispensed, as well as many of the chemicals. The predominance of requests for formulas and for advice on procedure, and the many articles, both major and minor, on the improvement of the taste, appearance, stability, and method of preparation, bear evidence of this, especially when the sparsity of ads offering them for sale is also considered. It was not until after the Civil War that the pharmaceutical houses really began to make serious inroads in this practice.

W. T. Tilden offered Fluid and Solid Extracts, Wm. S. Merrell Eclectic Medicines and Resinoids, and Garnier and Lamoureux their granules and Dragees, but that about covered the list. Articles suggesting the use of glycerin to improve the taste, clarity and permanence of liquid preparations, and its substitution for fats and oils in ointments indicated its newness in this area. Pharmaceutical uses for coconut oil and other substances, were suggested. There was a prolonged discussion of Chemical Food, which later reached the N. F. as Compound Syrup of Phosphates. This was advertised by a number of suppliers, among them Edward Parrish, 800 Arch Street, Philadelphia, who was the author of the articles.



1. A New Nursing Chair, with scale for weighing the baby.

That these apothecaries were also interested in developments in medical knowledge and practice is shown by the presence of many articles on such subjects as The Cause and Remedy for Tuberculosis, Improvements in Anaesthetics, New Hemostatics, and Disinfection; the therapeutic use of new remedies such as bismuth subcarbonate, nitroglycerin, the hypophosphites, and oxgall; and new uses for others such as codeine for treating coughs, potassium iodide in asthma, ammonium chloride in neuralgia, ipecac in dysentery, and uva ursi in obstetrics. I was also impressed by the number of articles, often with illustrations, which described new implements used by physicians in their practices.

Homeopathy was evidently a thorn in the





2. Knight's Soda Apparatus, portable model. After charging the apparatus with marble chips and acid, it was placed on the rocker for agitation. (2A)

side of pharmacy as well as medicine. Articles deriding this form of "quackery" were frequent. Its practice was ridiculed, and many derogatory jokes were used as fillers. Concern was felt, not only over the appearance of Homeopathic hospitals, but also that sections of hospitals such as Bellevue were set aside for the patients of these physicians. Other forms of quackery were also "exposed" from time to time. However, after several letters were received criticizing the many ads printed for nostrums, an article defending them was printed.

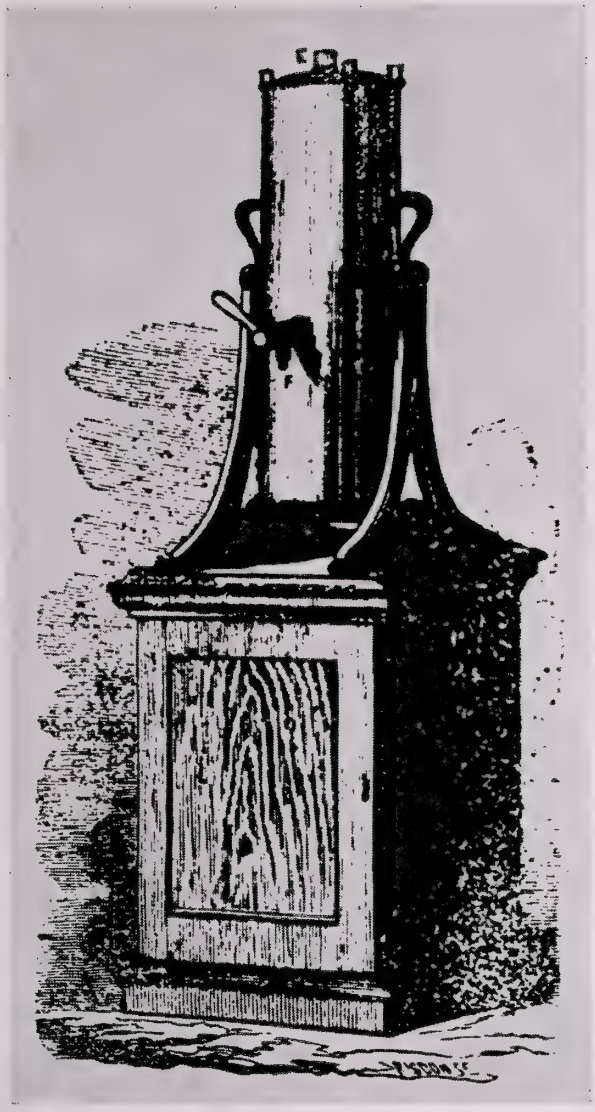
Apparently the appearance of female students in medical schools was not approved of, as shown by sarcastic articles ridiculing their chances of ever becoming good practitioners, the title of one being "Petticoat Physic." Other conditions outside of pharmacy also came in for discussion. The sale of "Swill Milk," obtained by feeding cows the exhausted mash from the distillation of liquor to increase milk production was roundly condemned.

Most people, even pharmacists, who should know better, seem to feel that the carrying of much extraneous merchandise by pharmacies is something new, but one of the first articles in the February 1857 issue expounded on the "total impossibility of expecting a high standard of either theory or practice of pharmacy in an establishment which is not half so much a pharmacy as a Marine store," and urged that pharmacists be compelled to possess a license.

Pharmaceutical education was both criticized and extolled, but the idea of compulsory attendance at college was not looked upon with favor.

In fact, both the practice of medicine and that of pharmacy were often the subjects of criticism. Physicians were criticized for the "hasty and illegible writing of prescriptions," the use of secret remedies in hospitals, and the practice of criminal abortion. The druggists were criticized for errors in dispensing, such as Black Drop (Acetum Opii) for Black Draught (Comp. Infusion of Senna), and Tr. Opium for Tr. Rhubarb, the sale of unlabeled medicines, and the indiscriminate sale of poisons. Both physicians and druggists were criticized for the use of coded prescriptions.

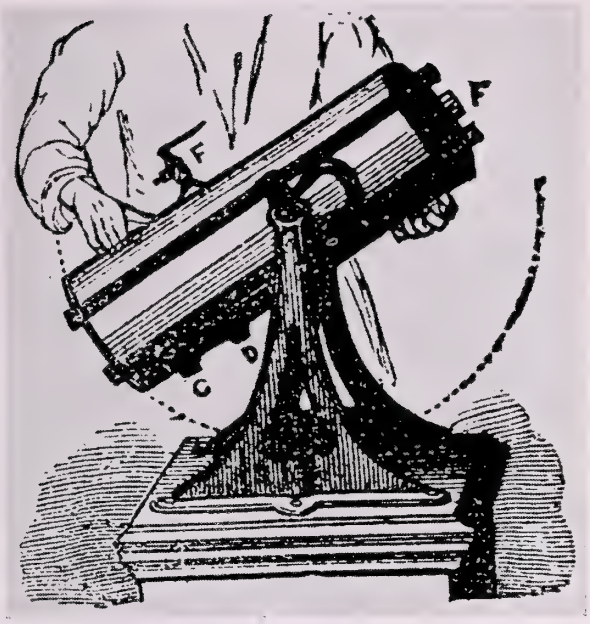
Poisoning seemed to be a very active topic. Articles were frequent on the method being developed for the detection of poisons, and poisoning by arsenic, white hellebore, white precipitate, opium, and toadstools seemed to be quite common. A suggestion was made that all poisons be colored yellow with "carbazotic" acid, which also colored the skin of the victim yellow. A case was presented of



3. Knight's Soda Apparatus, rotating model. After charging, it was rotated by the handle. (3A)

a baby which was poisoned by being dusted with powdered arsenic by mistake for white precipitate.

There were descriptions of pharmacy as practiced in other countries. France, Germany, Austria, Scotland and Australia were included. Usually, the writer managed to convey the impression that things were much better there than here. Very few suggestions as to how to improve conditions here were offered, with the possible exception of a proposal to change the Apothecaries system of both weight and measure so that it would become a decimal system, and a short article on how to make the drug store more attractive.



It is not possible to conduct a review such as this without quoting a few examples which caught the fancy of the reviewer, for some reason or other, especially in the minor areas. So here are a few which seemed to stand out.

A Dr. Hoffman announced the discovery of a new metal, which he called Amidogen. "He exhibited before the British Royal Institution a bright, glistening mass resembling butter which he said was ammonium. This strengthens the view that all components of the air must be metallic, and this must be an alloy of nitrogen and hydrogen. Many chemists have supposed that a metal would yet be obtained from ammonia because amidogen has always been found combined with metals or organic compounds, never separately."

Florigene, said to be a constituent of apple tree bark, was suggested as a possible replacement for quinine.

The use of a new test for acids, called litmus, was described.

Legal notices. In the first issue was recorded the issuance of an injunction against the counterfeiting of the "Balm of a Thousand Flowers," and another against the counterfeiting of the labels for Holloway's Pills.

There was a record of a poisoning case. A 15 year old girl was sent to the drug store with a teacup for two pennyworth of tincture of rhubarb. The druggist, however, put lau-



4. Title on print. Maybe it wasn't the first, but it looks crude enough to be.

danum in the cup, which was administered to a child with a bowel complaint. The child died two days later. The jury brought in a verdict — "died from the effects of laudanum, administered by mistake!" The judge decided that this did not amount to a manslaughter charge, and directed the druggist to do something for the family. The druggist gave the family five pounds.

Trade Arcana. While these were principally formulas, they also gave such things as experiments with colored fire, how to make photographs by artificial light obtained by burning phosphorus or sulphur in oxygen, the preparation and use of vaccine lymph, how to make show globe colors, and data to prove that hair growth was stimulated by repeated cutting. Another described Galvanic Moxa. This consisted of a silver and a zinc disc, connected with a silver wire. The skin was denuded under each disc, and moistened with salt water. The eschar forms under the zinc disc. To heal, reverse the discs.

Excerpta Minora, Odds and Ends, etc. These ran the gamut from observations on Chinese poisons to the general condition of plant life, and included such gems as the receipt in New York of Santa Ana's leg, the use in epilepsy of a black silk handkerchief and, is coal vegetable or mineral? as well as how to determine the sex of eggs. There was a new cure for hydrophobia, said to have effected the complete cure of some 20 patients, consisting of an ounce of elecampane boiled in a pint of milk to half its volume, and giving three such doses. The news that Dr. Brandreth had set aside $40,000 a year to help finish the Washington monument raised the question as to whether he would demand advertising space when it was completed.

"In the shadow of a small waist may be seen a large Doctor's bill and the outline of a coffin."

Asked how he drew the line between a surgical and a medical case, a prominent surgeon replied, "If the patient brings the fee with him, it is surgical, otherwise it is medical."

Notes and Queries. While most of these were concerned with formulas, at least one was worried over a modern (?) problem, what to do about bad breath, and one druggist was undecided whether to advise his customer to take one or two grains of arsenic daily for her complexion.

Advertisements. The principal groups included wholesale druggists, chemical and pharmaceutical manufacturers, nostrums, and cosmetics. In the two years over a hundred nostrums were advertised. Among these were many that were sold extensively during my acquaintance with pharmacy, as well as some still existent. Such well known names as Radway's Ready Relief, Brandreth's Pills, Culverwell's Radical Regenerator, Tarrant's Seltzer Aperient, Dalley's Magical Pain Extractor, Haarlem Oil, Perry Davis' Pain Killer, Dupuy's French Becotine, Schenck's Mandrake Pills, Smith's Electric Oil, Hostetter's Bitters, and many others. Mr. Parrish was one of several advertising Chemical Food, and he also advertised Philadelphia Grease Balls, but did not say what they were good for. Another advertiser of Chemical Food was Blair & Wyeth (this was John Wyeth's first association after his graduation in 1854).

Most manufacturers and wholesalers limited their ads to their names and addresses, but there was one which stated boldly, in a

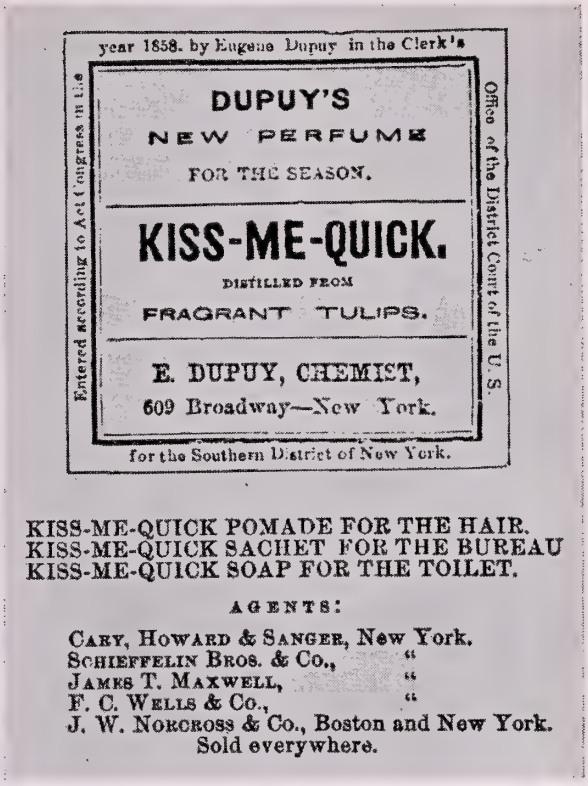


5. The Clysoboite. A new French device for administering clysters (enemas).

large ad "**Wholesale for Cash.** Compare our prices." Wholesalers included such well known names as McKesson & Robbins, 91 Fulton Street, the three Schieffelin groups, and Eimer & Amend "Uptown at 18th St. and Third Avenue." Chemical manufacturers included Powers & Weightman, as well as Rosengarten & Sons, both of Philadelphia. H. Planten & Sons featured their C & C or Black Caps, and Colgate & Co. showed a long line of soaps, including Brown Windsor, as did the Gouraud Co. Cosmetics were mostly limited to perfumes and essential oils (Piesse & Lubin), although Farina cologne was also included. E. DuPuy's Kiss Me Quick perfume must have been quite a success, as it was shortly followed by Miannay's Kiss Me Quietly, and still later by Kiss Me Sweetly.

What we now call Medicinal Adjuncts, and which are presently receiving increased attention in schools of pharmacy, were by no means missing from the advertising section. Artificial eyes, legs, hands, and feet, spring pads for beds, trusses, rubber goods of many kinds, quassia cups, a Clyso-boite or enema box, leeches, an "acoustic auricle," J. Cheever Charnes' Magneto-Electric Machines (galvanic belts), etc., etc.

Aside from the adjuncts, and in spite of the articles criticizing druggists for selling other merchandise comparatively few ads for "front store" items were seen. There were zinc paints, kerosene oil, photographic supplies for ambrotype, daguerreotype, and others; candy such as jujubes, gumdrops, lozenges and aromatic cachous (Sen-Sen). Prince's Protean Fountain Pen retailed for $3.45. E. Bigelow offered a metallic ice cutter for "iced cream soda." There were Blue Percussion Matches, Leclerc's Self-Generating Gas Lamp, and Knight's Portable Soda Water Apparatus, for aerating water to make Vichy and Rochelle salts more palatable.



6. This is a copy of the Advertisement referred to in the paper.

The Eclectic School of Medicine, Cincinnati, Ohio, J. H. King, dean, listed fees as follows — Matriculation $5, Tuition $20, Demonstrator's ticket $5, Graduation $25, while the Memphis Medical College boasted eight faculty members, and listed fees at Matriculation $5, Anatomy and Dissection $10, Graduation $25, Tuition for the entire course $105.

Three Schools of Pharmacy advertised — Philadelphia, Baltimore, and New York. The only one which gave any details was New York, which listed courses in Materia Medica, Chemistry, and Pharmacy, 1 hour, 3 times a week from October 20 to March 21, $10 for each course or two for $15.

Ads for druggists' supplies included bottles and corks, metal caps and tinfoil, earthenware and crucibles, twine and cordage, Apothecaries' scales and weights, gold "lacker," Fairbanks scales, and one small ad for showcases.

There was one ad I almost answered—Drug store for sale, good business, R. B. Monroe, Suspension Bridge, Niagara Falls, New York, $600.

A summary is a very necessary feature of this kind of a review, so I will present the case as I see it. Many of the acts on the stage bore a striking resemblance to those of today, however, there were different actors and they wore different costumes. The one big difference seemed to be this: while there were problems and situations which called for action, the scene seemed to be less frantic, and the feeling that problems would somehow be solved, was very evident.

Nobody seemed to feel that, if drastic action was not taken day before yesterday, pharmacy would be completely destroyed by next year. In the nearly fifty years that I have been associated with pharmacy, that kind of prediction has been made so often that somehow, like the cry of Wolf! Wolf! it does not provoke the response that perhaps it should.

The cutrate scare of the 90's, the parcel post furore, the department store, the chain store, the pine board store, the supermarket, the discounter, all have come and most of them are still here. But we still have around 50,000 pharmacies, 90% of which are independently owned.

August, 1857

Maidens, Beware!

Madame M....., a celebrated beauty, had the habit of white-washing herself, so to speak, from the soles of her feet to the roots of her hair. One day she discovered that certain pimples, like a little group of volcanoes, were piercing the thick crust of dead white, and threatened to cover her arms with pathological arabesques.

Under the advice of a physician, she ordered a medicated bath, and, with the hesitation of a woman with delicate nerves, she plunged therein her beautiful person. Hardly had that adorable plaster cast disappeared to the neck in the sulphurous wave, when suddenly from head to heel the whiteness of milk changed to the bronzed blackness of an Ethiopian. You would have declared her to be a negress badly whitened, or a white dame attacked with extraordinary cholera symptoms.

The last supposition prevailed, and the physician, called in haste, laughed immoderately.

"Madame," said he, "you are not ill, you are a chemical product. You are no longer a woman, you are a sulphuret. It is not now a question of medical treatment, but of simple chemical reaction. I shall analyze you. Come, I shall submit you to a bath of sulphuric acid diluted with water. The acid will have the honor to combine with you, will take up the sulphur and the metal, will produce a sulphate, and we shall find as a precipitate a pretty woman."

Snowy Dianas, let this serve you as a lesson. Never use a white powder which has a metallic base.

August, 1857

The Chemist To His Love

I love thee, Mary, and thou lovest me
Our mutual flame is like th' affinity
That doth exist between two simple bodies.
I am Potassium to thy Oxygen.
'Tis little that the holy marriage vow
Shall shortly make us one. That unity
Is, after all, but metaphysical.
Oh! would that I, my Mary, were an acid —
A living acid; thou an alkali
Endowed with human sense, that brought together,
We both might coalesce into one salt,
One homogeneous crystal. Oh! that thou
Were carbon, and myself were hydrogen;
We would unite to form olefiant gas,
Or common coal, or naphtha. Would to heaven
That I were Phosphorus, and thou wert Lime!
And we of Lime composed a Phosphoret.
I'd be content to be Sulphuric Acid
So that thou might'st be Soda. In that case
We should be Clauber's Salt, Wert thou Magnesia
Instead, we'd form the salt that's named from Epsom.

Could'st thou Potassa be, I Aquafortis,
Our happy union should that compound form
Nitrate of Potash — otherwise Saltpetre,
And thus, our several natures sweetly blent
We'd live and love together, until death
Should decompose the fleshly Tertium Quid,
Leaving our souls to all eternity
Amalgamated. Sweet, thy name is Briggs,
And mine is Johnson. Wherefore, shall not we
Agree to form a Johnsonate of Briggs?
We will. The happy day is nigh
When Johnson shall with beauteous Briggs
unite.

The Song of the Pills*

With fingers sticky and cramped,
With toggery soiled and red,
A druggist stood at his mortar block
Rubbing up sugar of lead.
Rub, rub, rub,
Mix aloes, pepper and squills,
And still with a thump at a little lump
He sings this song of the pills:

"Roll, roll, roll,
While people swallow 'em down;
And thump, thump, thump,
(Three cents of cowitch down)
And trot, trot, trot,
(sixpence of Rhei Turk)
Now the end of the pill is hard and dry,
And he cuts it off with a jerk.

"Pound, pound, pound,
Till your nose is full of dust,
And sift, sift, sift,
Till now it's sneeze you must;
Mixture and dose and pill —
Powder to make 'em doze,
(I want some arsenic, rats to kill,
And some hair oil, scented with rose).

"Boy! Where's my senna and salts?
A penny of liquorice too,
Some caustic to cure my warts,
And a nice piece of pitch to chew.
Trot, trot, trot,
'Mid aloes, rhubarb, and squills,
Calling at once for an ounce of goldthread,
And a dozen of 5 gr. blue pills.

"Daily I sport with death
(Three cents of cuttlefish bone)
An ounce of the root called beth —
Boy! Let the scales alone:
In a pint of water to steep
A powder every four hours,
(I hope you'll fall asleep)
With an ounce of chamomile flowers.

"Mix, mix, mix,
(Give me a little sweet flag)
And fix, fix, fix,
(Some salve to put on a rag);
Nitrate of silver and bread,
M.—pills no. xxiv
(Sure, it's **three** pence of ile, I sed)
Give her a little more.

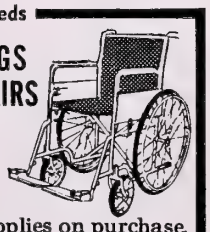
"Work, work, work,
From seven till long after nine,
This business would wear out a Turk
(and it's just a dose of quinine);
Julep and ointment and pill
(Have you got any human fat?)
It's very plain to be seen
We haven't got any of **that!**

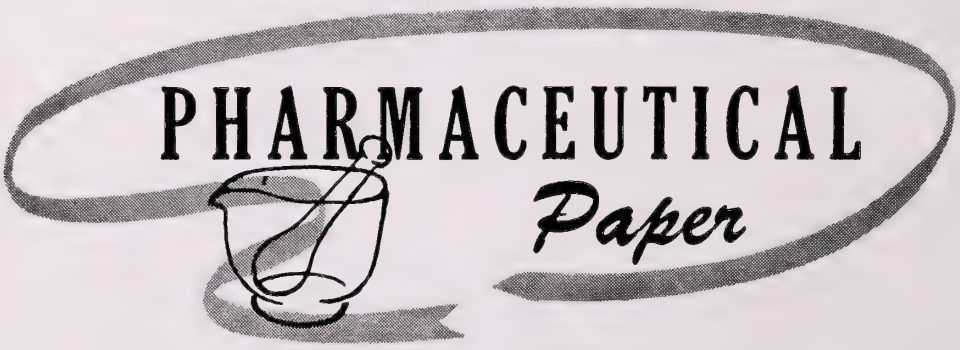
"Thump and toil and mix,
On this cold December night
And there's an ointment to fix
Of lard and precipitate white;
Rx Emp. Burg. pitch.
On a piece of chamois or kid.
Sulph. et Cream Tart. for itch
And a wash for W---s eyelid."

With fingers sticky and cramped,
With eyes as heavy as lead
A druggist stood at his mortar block
Pounding out his bread.
Hurry and rub and thump,
Mid aloes, cowitch, and squills,
And still, with a thump at that loafish lump,
He sang this song of the pills.

---

* From the fly-leaf of an old Dispensatory.

100's of Invalid needs
E J AUTHORIZED DEALER
EVEREST & JENNINGS FOLDING WHEEL CHAIRS

RENT FOR 28¢ PER DAY
SELLS FOR $75 First month's rent applies on purchase.
ELMEN RENT-ALL
1701 WEST 12TH SIOUX FALLS, S. D.
PHONE 336-3670
"We Rent Most Everything"
Hospital Beds Walkers Bedrails
Crutches Commodes Trapeze Bars



COMMUNITY PHARMACY—1963

The preliminary **Lilly Digest** report of 1,016 retail pharmacy operations reveals definite trends. Sales are up; the cost of goods sold percentage is down. Net profits show an increase as the larger operating expenses are more than matched by the larger gross margins.

Total sales reached a record high of $158,474, reflecting an increase of $12,289 (8.4 percent). This total dollar gain is divided almost equally between prescription sales and other sales. However, prescription sales sparked to a high of 37.1 percent of total sales — the highest percentage in the history of the **Digest.**

The number of prescriptions dispensed also denotes growth. There is an increase of 1,546 prescriptions dispensed per store, thus producing another record breaker: a total of 17,363 prescriptions dispensed per pharmacy. Of this total, 48.3 percent are new prescriptions. This reverses a ten-year trend in which refills annually increased their percentage of the total prescription volume. However, refills still provide 51.7 percent of the total prescription business. The average prescription charge increased 6 cents, from $3.32 to $3.38.

Total operating expenses increased by 0.5 percent and now average 31.7 percent of total sales. Net profits increased to 4.9 percent as the cost of the merchandise sold decreased 0.6 percent, to 63.4 percent of total sales. As a result of controlling operating expenses, proprietors are accepting a lower percent of sales as wages. However, the dollar amount of total income (salary plus net profit, before taxes) increased to a record average of $20,685 per pharmacy.

Inventory increases are noted both "out front" and in the prescription department by 7.2 percent and 7.4 percent respectively. Thus, total inventory is 17.5 percent of total sales. The turnover rate remains at 3.6 times a year.

Summary

The preliminary **Lilly Digest** report of the operating figures of 1,016 community pharmacies is summarized on page 51, along with the 1962 operations of 2,317 stores.

Preliminary Lilly Digest—1963

Averages Per Pharmacy	1963 (1,016 Stores)	1962 (2,317 Stores)	Change and Percent of Change
Sales			
Prescription	$ 58,764— 37.1%	$ 52,578— 36.0%	+ $ 6,186—11.8%
Other	99,710— 62.9%	93,607— 64.0%	+ 6,103— 6.5%
Total	$158,474—100.0%	$146,185—100.0%	+ $12,289— 8.4%
Cost of goods sold	100,467— 63.4%	93,493— 64.0%	+ 6,974— 7.4%
Gross Margin	$ 58,007— 36.6%	$ 52,692— 36.0%	+ $ 5,315—10.1%
Expenses			
Proprietor's or Manager's salary	$ 12,982— 8.2%	$ 12,244— 8.4%	+ $ 738— 6.0%
Employees' wages	18,451— 11.6%	16,758— 11.5%	+ 1,693—10.1%
Rent	4,043— 2.6%	3,515— 2.4%	+ 528—15.0%
Miscellaneous operating costs	14,828— 9.3%	13,105— 8.9%	+ 1,723—13.1%
Total Expenses	$ 50,304— 31.7%	$ 45,622— 31.2%	+ 4,682—10.3%
Net Profit (before taxes)	7,703— 4.9%	$ 7,070— 4.8%	+ $ 633— 8.9%
Total income (net profit plus proprietor's salary, before taxes)	$ 20,685— 13.1%	$ 19,314— 13.2%	+ $ 1,371— 7.1%
Value of inventory at cost and as a percent of sales			
Prescription	$ 9,260— 15.7%	$ 8,620— 16.4%	+ $ 640— 7.4%
Other	18,411— 18.5%	17,172— 18.3%	+ 1,239— 7.2%
Total	$ 27,671— 17.5%	$ 25,792— 17.6%	+ 1,879— 7.3%
Annual rate of turnover of inventory	3.6 times	3.6 times	— —
Number of prescriptions dispensed			
New	8,392— 48.3%	7,577— 47.9%	+ 815—10.7%
Renewed	8,971— 51.7%	8,240— 52.1%	+ 731— 8.9%
Total	17,363—100.0%	15,817—100.0%	+ 1,546— 9.8%
Prescription charge	$3.38	$3.32	+ $ 0.06— 1.8%



IS SCHOLARSHIP ENOUGH?*

by
Kenneth Redman
Brookings, South Dakota

A famous botanist once recalled that after graduation from college when he and his bride had settled in their new home, he didn't have any idea of how to plant and cultivate a home garden. Recently, a botanist has said "the term 'botany' in its modern sense is regarded as the study of plants for the direct interest which they hold for the human mind, without compulsion to consider practical aspects of plant life." A couple lost in the North wilderness nearly died of starvation with rabbits and other game all about them. A student in engineering ethics recorded an absent friend's name on the attendance roll. In a recent debate on the Quality Stabilization bill, the only defense by the "modern" merchandiser to the claim that selling a bottle of 100 aspirin tablets for 4 cents is bait merchandising, was that the modern shopper should know this.

Burton has said that "Learning is a change in the individual, due to the interaction of that individual and his environment, which fills a need and makes him more capable of dealing adequately with his environment." If this be true, then is not the ultimate aim of the study of plants, which constitute a conspicuous part of man's surroundings and upon which he is dependent for life, to make man more capable of dealing with, and to have an appreciation for, this important part of his environment? The couple lost in the wilderness, with even elementary scout training, could have stripped off some inner bark of the white pine, made snares and fared much better by adapting themselves to their surroundings.

The student in engineering ethics and the "modern" merchandiser do not fully appreciate the necessity of humans living together under tolerable conditions, one of which is confidence in another's statements.

Socrates, and, yes, the modern educator, say that knowledge is doing. Knowledge is obtained by learning. Learning is by motivation. Motivation for learning may be negative, i.e., fear of failing a course, or positive, i.e., to live by. We, as teachers, must live by dents we must have a code of ethics for doing, i.e.,to live by. We, as teachers, must live by the values that we teach and preach, for students will not be fooled, nor can they be expected to follow a "do as I say, not as I do" philosophy. The student must grow gradually into the integrity of science and life; he must not be expected to change suddenly.

Scholarship is more than getting good grades. If we define scholarship as "the sum of mental attainments of one distinguished for the pursuit and possession of knowledge," with a complete understanding of the ethical values and the ability to adapt properly to life's environment, it is enough. As Charles Davis has said, "Scholarship . . . must become a kind of higher internationalism — a means toward the magnificent end of endowing the lives of all mankind with independence, magnanimity, and trust; of insuring that nobler race of men who shall succeed us."

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* The MASK of Kappa Psi Pharm. Frat., October-December, 1963.

PHARMACEUTICAL NEWS

STATE COLLEGE DIVISIONS TO BE NAMED COLLEGES

The present academic "divisions" at South Dakota State College will become "colleges" on July 1, when the name of the institution will change to South Dakota State University.

The changes were approved by the Board of Regents, according to President H. M. Briggs of State.

New names for the divisions will be College of Agriculture and Biological Science; College of Engineering, College of Home Economics, College of Nursing, College of Pharmacy, College of Arts and Sciences, and Graduate School.

PHARMACY SCHOLARSHIPS AWARDED

Two South Dakota high school seniors were named recipients of pharmacy scholarships at the annual Scholarship Recognition Day held at South Dakota State College, April 4. They are **Ralph E. Bartholomew,** Lemmon, and **Gary L. Clausen,** Ashton (Northville-Northwestern). The scholarships are valued at $198 each.

STATE COLLEGE PHARMACY ENROLLMENT IS 211

Pharmacy enrollment at South Dakota State College for the spring semester is 211 according to figures released by the Office of Admissions and Records. This is a decrease of eight as compared with the previous semester.

Broken down by classes, there are 66 freshmen, 53 sophomores, 49 juniors, and 43 seniors. Of the total, 179 students are men and 32 are women.

The above figures represent only four classes of students since, presently, there are no fifth-year students.

HUSTEAD APPEARS ON ECONOMICS PROGRAM

Ted Hustead, Wall, was one of the guest panelists who appeared on the program of the annual Agri-Business Day held at South Dakota State College, April 7. Topic of the panel discussion was "Our Experiences in Creating Attitudes Needed for Economic Development."

Agri-Business Day is an annual event sponsored by the Economics Department of South Dakota State College.

DR. BRUNO ATTENDS DENTAL MEETING

Dr. Gerald A. Bruno, Assistant Professor of Pharmaceutical Chemistry attended the 42nd General Meeting of the International Association for Dental Research March 19-22, 1964, in Los Angeles, California. Dr. Bruno is the Co-Investigator on the Division of Pharmacy, U. S. Public Health Service research project concerned with the effect of protein anabolic hormones on experimental dental caries in the rat.

1964 CONTINUING EDUCATION PROGRAM FOR HOSPITAL PHARMACISTS

Over 500 hospital pharmacists are expected to attend eight continuing education programs during 1964. The institutes and conferences, held under the direction of the American Society of Hospital Pharmacists, are designed to keep hospital pharmacists up to date, and provide a forum for the exchange of ideas. Sites for the programs cover a wide geographical area — from West Point, New York, to San

Diego, California. Subjects offered at the various continuing education programs range from planning and design of hospital pharmacies to formulation and production of aerosols.

Programs to be conducted by the American Society of Hospital Pharmacists in cooperation with the American Hospital Association and the American Pharmaceutical Association are:

Institute on General Practice of Hospital Pharmacy
University of Texas Medical Branch, Galveston, Texas
May 25-29

Institute on Formulation, Production and Control of Pharmaceutical Dosage Forms
State University of Iowa
Iowa City, Iowa
June 22-26

Institute on Planning, Design and Renovation of Hospital Pharmacies
Hotel Thayer
West Point, New York
September 28-30

Institute on Planning, Design and Renovation of Hospital Pharmacies
Hotel del Coronado
San Diego, California
November 30-December 2

In addition, the Society will sponsor the following specialized continuing education programs:

Physical Pharmacy for Hospital Pharmacists
Washington State University, Pullman, Washington
Conducted by WSU College of Pharmacy faculty

Basic Radiological Health for Pharmacists
University of California at Los Angeles, Los Angeles, California
Conducted by Division of Radiological Health, U. S. Public Health Service

Specialized Institute on Hospital Pharmacy
American Hospital Association Headuarters
Chicago, Illinois
Conducted by the American Hospital Association

Announcements and applications for each program will be mailed to members of the American Society of Hospital Pharmacists two months in advance of each of the programs. Since applications are accepted in the order they are received, applicants are urged to return the completed forms at the earliest date possible. Interested individuals wishing additional information may write to: Department of Education and Training, American Society of Hospital Pharmacists, 2215 Constitution Avenue, N. W., Washington, D. C., 20037.

DR. BRUNO ADDRESSES YOUNG SCIENTISTS

Dr. Gerald A. Bruno, Assistant Professor of Pharmaceutical Chemistry, addressed students participating in the tenth Annual Northeast South Dakota Science Fair. The topic of the program was "What We Should Know about Civil Defense." Emphasis was placed on the effects of a nuclear attack and what precautions should be taken in the unlikely event that our nation becomes the target of such an attack.

STATE COLLEGE NAMES GROSS AS PHARMACY DEAN

Guilford C. Gross has been named as the dean of pharmacy at South Dakota State College, President H. M. Briggs has announced. His appointment was approved by the Regents of Education.

Dr. Gross will succeed Floyd J. LeBlanc who will retire as dean on July 1. Dr. LeBlanc will continue on the staff as a teacher.

The new dean will be only the third to hold that position in the history of pharmacy at State College. LeBlanc has been dean since 1941 when he succeeded Earl R. Serles, the first person to be dean of pharmacy at State College in 1923. Pharmacy has been in the State College curriculum since 1887.

A native of Bowdle, Gross earned bachelor's and master's degrees at State College. He was awarded the doctor's degree in 1952 by the University of Florida. A member of the State College staff since 1940, he has been professor and head of the pharmacology department.

Gross was the 1957 winner of the $1,000 A. J. Erstad award for able and inspiring teaching at State College. He has published a number of articles in professional journals.

LeBlanc has been on the pharmacy staff since 1924, the year he received a bachelor's degree from State. He also earned a master's degree at State and a doctor's degree from Purdue University.

PHARMACY HEALTH INFORMATION CENTER STUDY NEARS COMPLETION

April marked the end of the six-month display of health literature in the 360 pharmacies participating in the joint American Pharmaceutical Association-U. S. Public Health Service study to evaluate the community pharmacy as a source of reliable health information. Project Administrator George Griffenhagen said, "While the literature display portion of the study is almost completed, two major jobs remain to be done. The patron and pharmacist interviews and National Analysts' final report." All participating pharmacists and 1,200 patrons, selected at random, will be interviewed to obtain their impressions and opinions of the pharmacy as a health information center. Similar patron interviews were conducted in October 1963, prior to the actual display of the literature. Comparisons between the results of the two interview series will reflect any changes in public attitudes and opinions

Since November, the American Pharmaceutical Association has been supplying participating pharmacists with 100 copies each of from 12 to 18 different health brochures for display in a special literature rack. All of the brochures have been furnished by more than 30 cooperating professional and voluntary health organizations without cost to APhA.

Final results of the pilot study are not expected to be completed until late Summer.

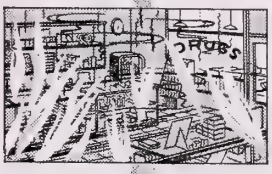
ONE
POLICY
PREMIUM
RENEWAL
COMPANY

DRUGGISTS MUTUAL'S

MULTI-PERIL POLICY

For the first time . . . Fire and liability protection in one policy specifically designed for the Druggist . . .

AT SUBSTANTIAL SAVINGS!



INSURES STOCK AND EQUIPMENT AGAINST LOSS BY FIRE AND EXTENDED COVERAGE!



PROTECTS ASSETS AGAINST LIABILITY CLAIMS!

THIS POLICY MAY ALSO INSURE THE STORE BUILDING, LOSS OF EARNINGS, VANDALISM, BURGLARY, GLASS, AND MANY OTHER OPTIONAL COVERAGES INDIVIDUALLY SUITED TO SPECIFIC NEEDS.

Phone for Quick Service — 295-2461 (Area Code 515) Your Druggists Mutual Fieldman will quickly get your message.

WHERE YOU'RE A NAME AND NOT A NUMBER

DM INSURANCE

DRUGGISTS MUTUAL INSURANCE CO.
EUGENE MURTAGH, President
Since 1909
Algona, Iowa

The Only Mutual Company in the U. S. Specializing in the drug field. High dividends mean low net cost.

ALLIED DRUG TRAVELERS' NEWS

The Aberdeen Drug Travelers met on March 21, at which time they formed their own local organization. **Denny Dorgen** was elected president. Local groups, such as this, can contribute much to creating a strong and enviable state organization.

It seems safe to say that all who attended **"Las Vegas Night"** had a wonderful time. We wish to express our sincere thanks to all pharmacists and friends for their support in making this such a successful event. The money raised will be used to provide a scholarship for a deserving pharmacy student.

FDA ISSUES BOOKLET ON DRUGS

Medicines — what to do and what not to do with them — are the subject of a publication issued by the Food and Drug Administration.

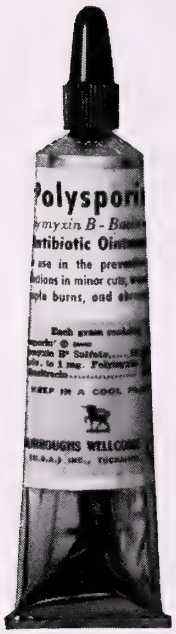
The booklet, "First Facts About Drugs," was written in response to many requests for basic information on drugs from students and adults. FDA said the purpose of the booklet is to provide the kind of knowledge needed for the safe and effective use of today's drugs, knowledge which most people acquire only through long experience.

The publication answers questions frequently asked FDA about prescription drugs, over-the-counter drugs, "dope," barbiturates, amphetamines ("pep pills" or "bennies"), and controls for drug safety. It includes "true or false" questions and a bibliography to add to its usefulness in the classroom.

Drugs, the new booklet advises, are powerful friends, but they can be misused. It advises on proper purchase, use and storage.

Copies of the booklet may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 15 cents each. A discount of 25 per cent is available for purchases of 100 copies or more.

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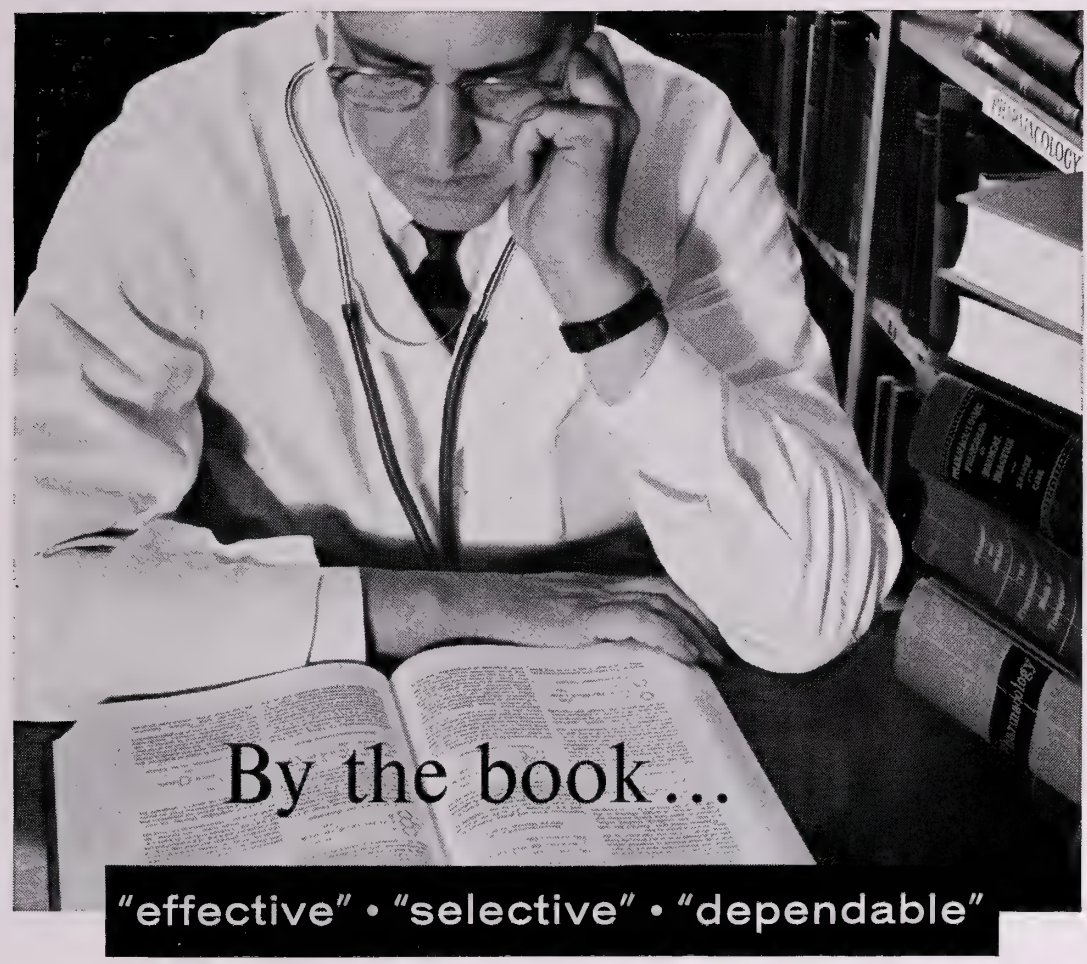
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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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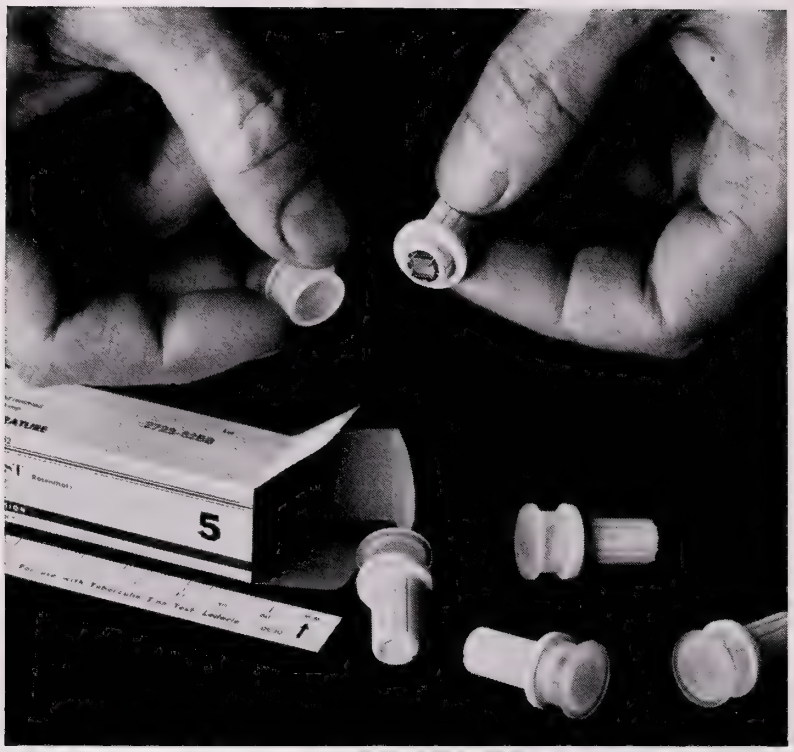
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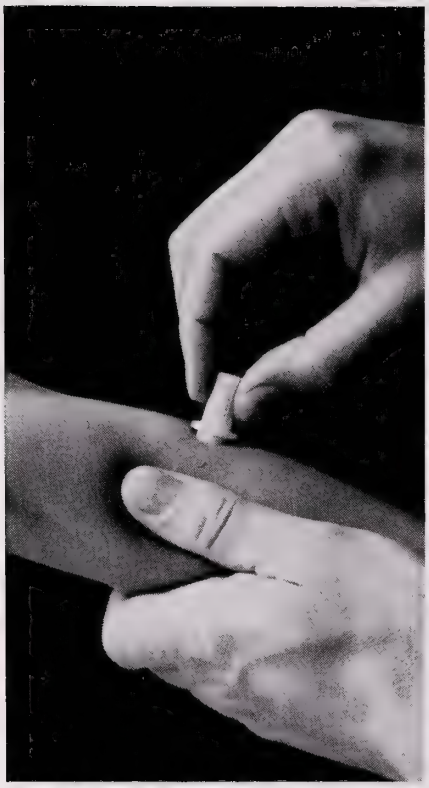
Side effects: Slight drowsiness and, rarely, allergic or idiosyncratic reactions, due to meprobamate, and occasional dizziness or feeling of depersonalization in higher dosage, due to benactyzine, may occur. **Contraindications:** Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use of meprobamate or meprobamate-containing drugs. **Precautions:** Should administration of meprobamate cause drowsiness, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Although suicides with 'Deprol' have not been reported, prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage of meprobamate may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Even though it has not been reported with 'Deprol', consider the possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage. *Complete product information available in the product package, and to physicians on request.*

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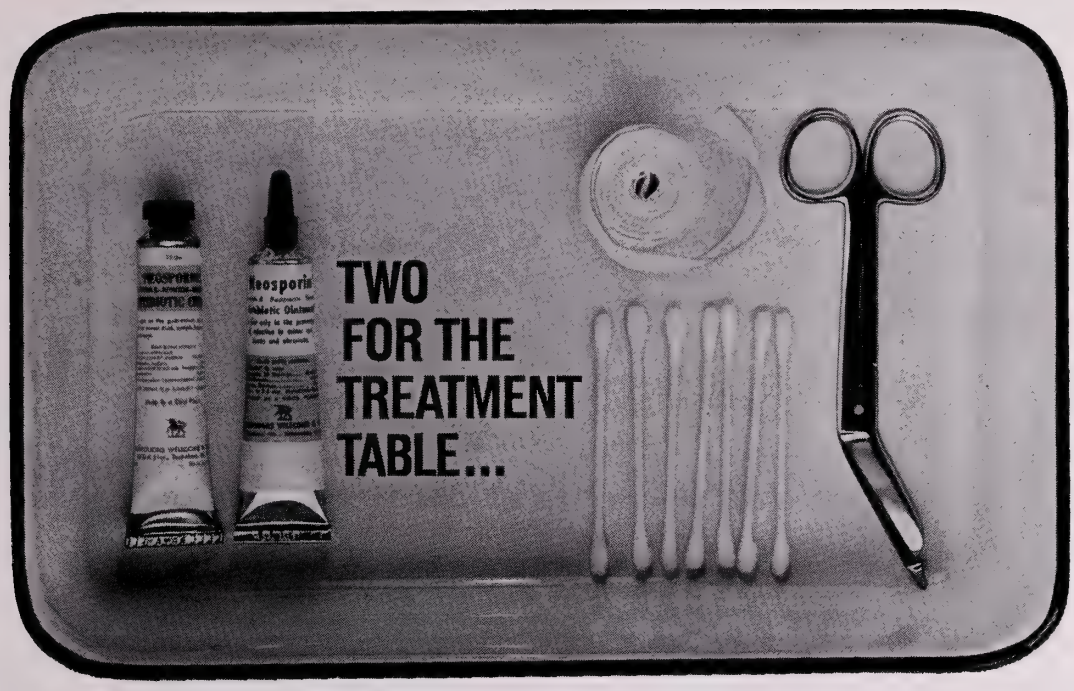
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1. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962. **2.** Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. *J. Amer. Geriat. Soc.* 11:945 (Oct.) 1963.

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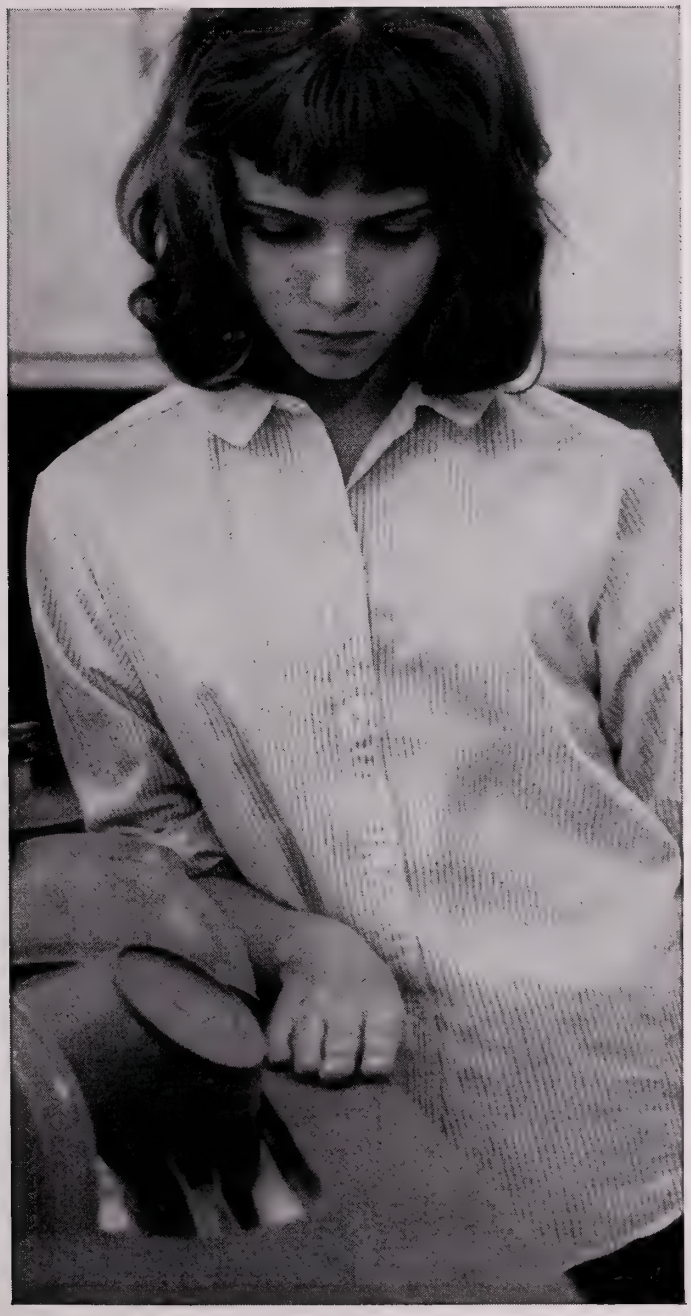
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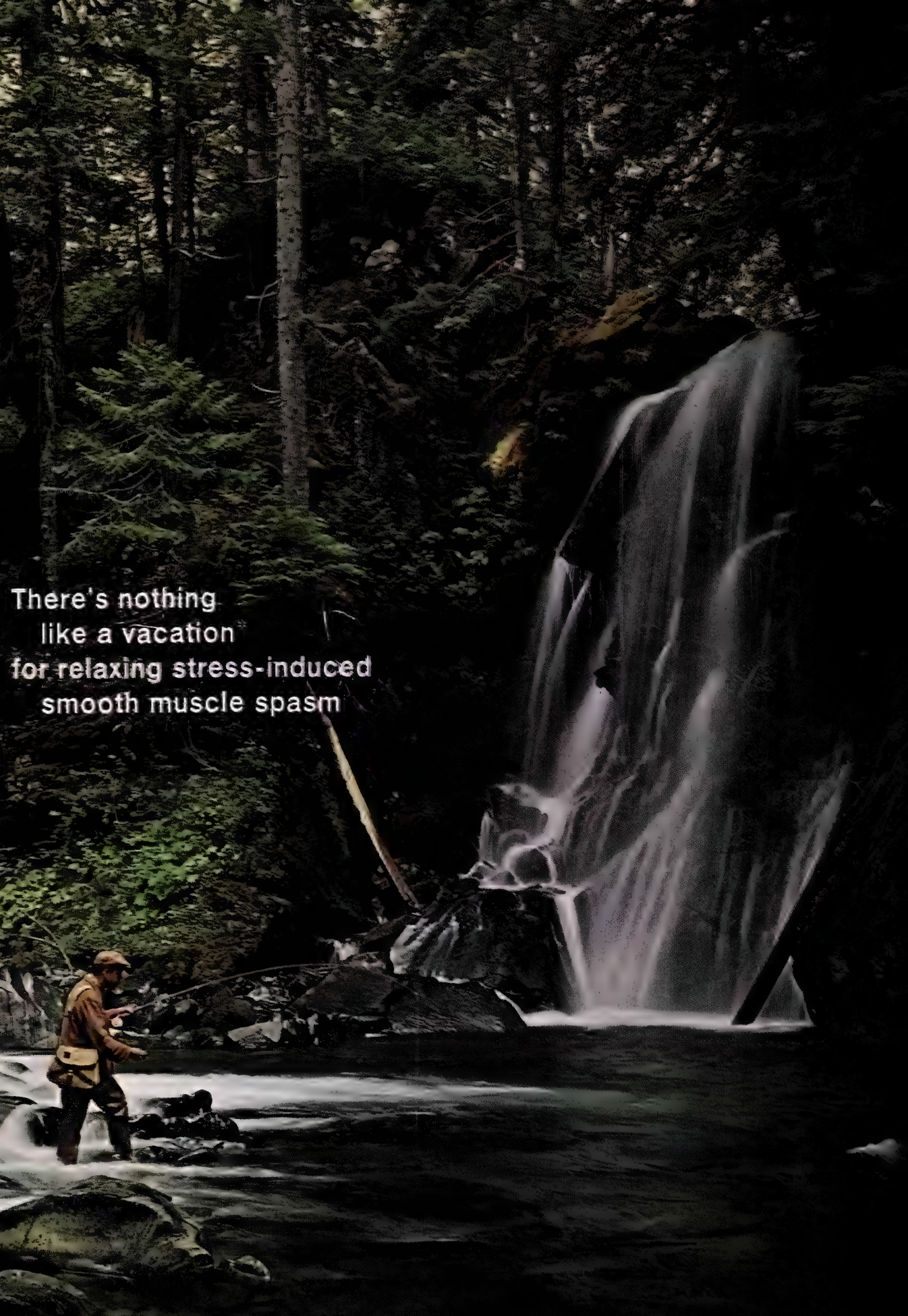
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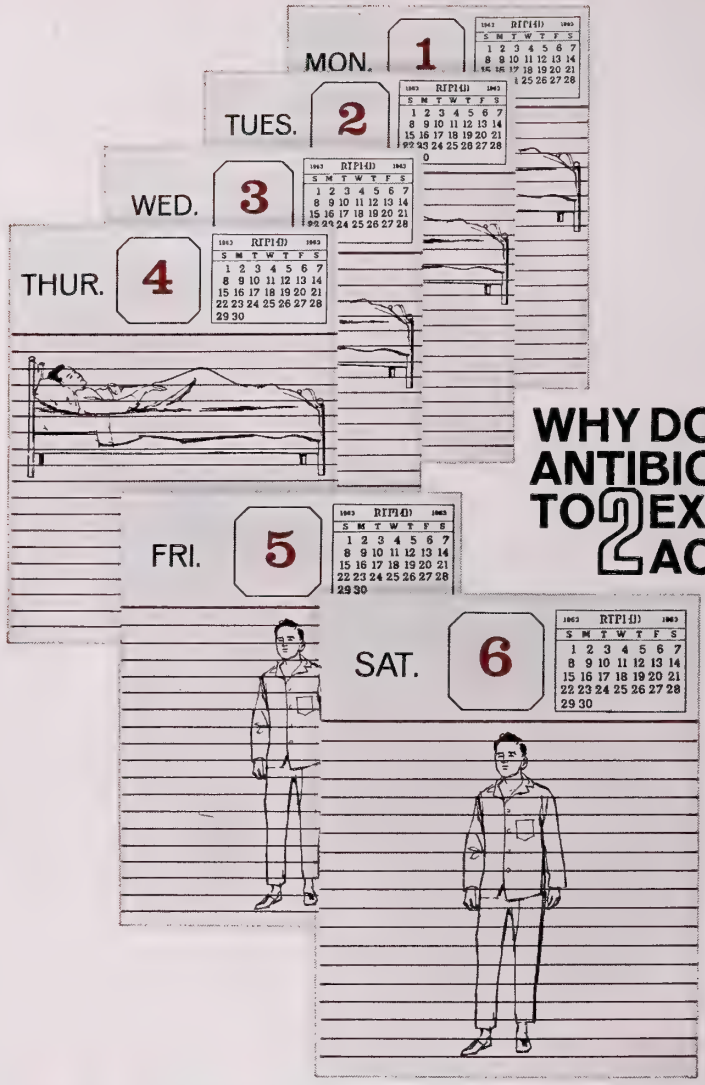
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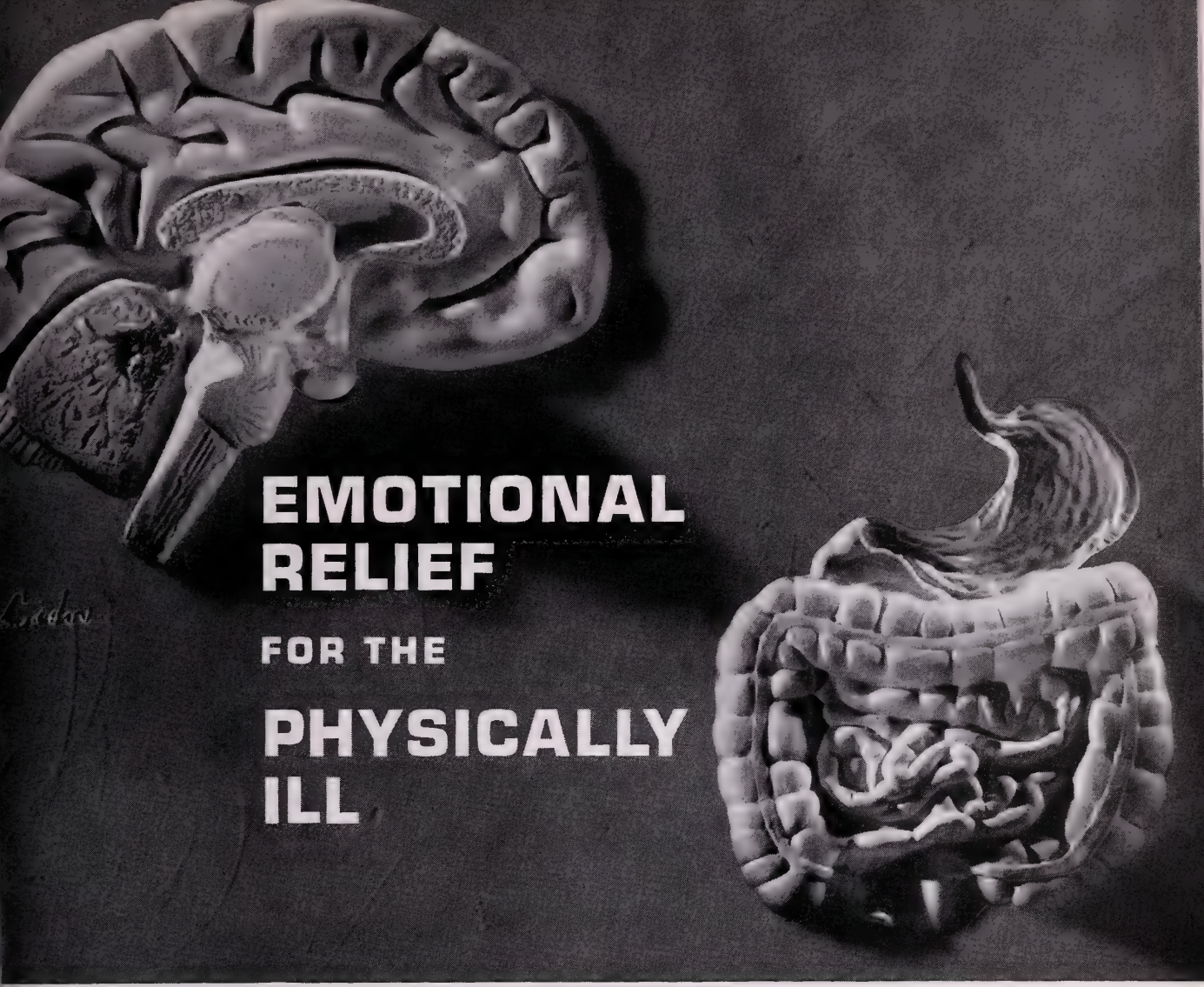
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*Donnelly, J.: A.M.A. Arch. Environmental Health 6:697, June, 1963

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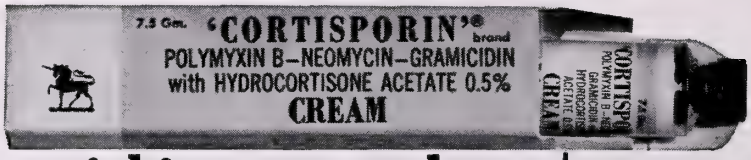
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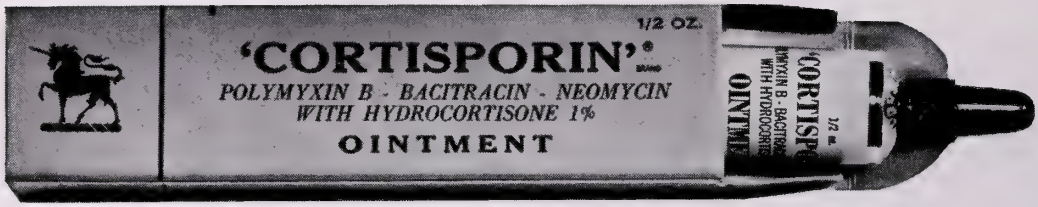
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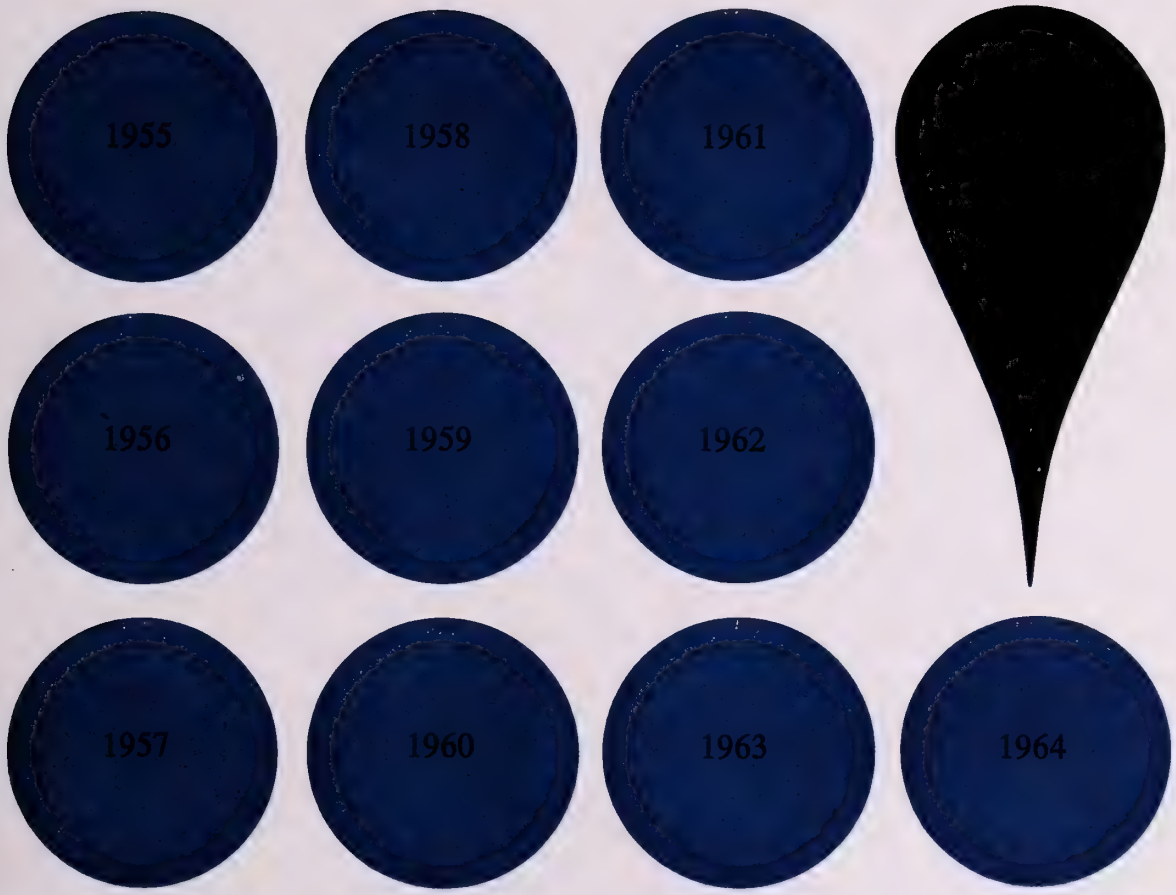
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CONTRAINDICATION: Anuria.



1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. *J. Amer. Geriat. Soc.* 11:945 (Oct.) 1963.
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Traumatic Popliteal Arteriovenous Fistula; Successful Treatment With Sympathectomy And Excision

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Paul C. Reagan, M.D.
Sioux Falls, South Dakota

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Traumatic (acquired) arteriovenous fistula was recognized as early as 1757 by William Hunter, but its occurrence is infrequent, only 585 being reported in the series of injuries of World War II to the various arteries. The condition is almost invariably due to penetrating wounds of gun shots, knife injuries or projectiles. The experience with 3 cases involving the popliteal artery, as well as other peripheral arteries, has been summarized in the recent edition of Allen, Barker and Hines by Ivins of the Orthopaedic Section of the Mayo Clinic.[1] Because of the rarity of the condition it would seem worthwhile to report an additional case in which a successful result followed a sympathectomy and four-pole ligation of the fistula.

CASE REPORT

A white female, age 36, was seen because of complaints of pain and swelling in the right knee and lower leg. She gave a history of having suffered a bullet wound in the leg 18 years previously. Attempts to remove the bullet at that time had been unsuccessful. She had gotten along quite well until 2 weeks previously when she began to have pain in the right knee associated with swelling of the right leg. The pain became increasingly severe so that the patient no longer walked on that leg and used a pair of crutches to avoid weight bearing on the affected extremity.

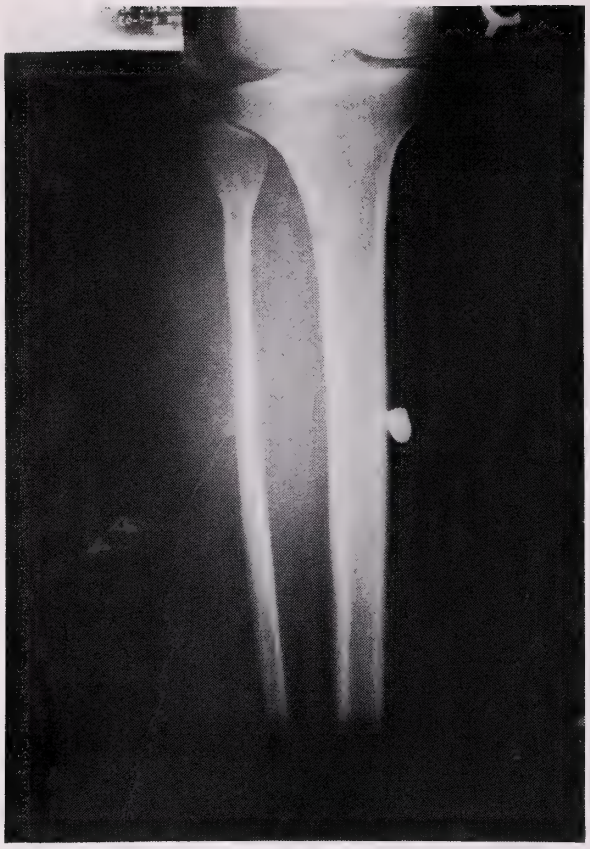


Fig. 1. Anteroposterior view of the right knee showing the bullet as well as the calcification of the cartilages of the knee and adjacent soft tissues.

Physical examination revealed a white female, 5 feet 4 inches tall, weighing 120 pounds. There was a small healed scar of entrance over the lateral aspect of the right knee and a longitudinal scar medially over the right knee. The lower right leg was moderately, but diffusely, swollen with enlargement of the superficial veins of the lower leg. A thrill and bruit was present throughout the cardiac cycle over the popliteal area, and this was accentuated during systole and diminished with diastole. There was no evidence of any cardiac enlargement. The dorsalis pedis and posterior tibial pulsations were good at the ankle.

Roentgenograms of the right knee showed a bullet medial to the upper tibial shaft with some calcification in the soft tissues just posterior to the knee joint (Fig. 1, 2), as well as some calcification of the cartilages.

A tentative diagnosis of an arteriovenous fistula was made and the patient was admitted to the hospital for an arteriogram. The arteriogram showed marked dilatation of the femoral and popliteal arteries and veins. The interpretation of the arteriogram was reported by the radiologist as follows: "The findings are those of an arteriovenous fistula at the level of the popliteal artery. In view of the bullet in the leg this is undoubtedly traumatic." X-rays of the chest were reported as "Normal chest."



Fig. 2. Lateral view of the same knee.

On April 16, 1963, the patient underwent a lumbar sympathectomy, excision and quadruple ligation of the popliteal fistula and removal of the bullet. With ligation of the proximal end of the popliteal artery the patient's pulse fell from 78 to 64 beats per minute.

The patient showed an excellent response to the sympathectomy, the affected leg being markedly warmer following surgery than the unaffected leg. She was dismissed from the hospital ambulatory on crutches 10 days after surgery. The pain and swelling disappeared from her leg and she resumed her previous duties as a swimming instructor. At present she has no complaints regarding the leg.

The pathological report was as follows: "Gross Examination: The specimen as submitted forms a tissue mass measuring 78 x 32 x 18 mm. At one margin there is a 35 mm. tubular structure, apparently venous in origin. Its circumference at one point is 27 mm. Eight mm. from one margin is a defect in the wall containing fibrin clot. The defect in the wall measures 10 x 6 mm. There is communication with a 67 mm. tubular structure, apparently the popliteal branch, the bifurcation surrounding the previously mentioned venous channel. There is luminal dilation of one segment to a circumference of approximately 30 mm. at the level of the arteriovenous fistula. On the arterial side the endothelium is layered with clot over a plaque measuring 18 x 10 mm. Vascular channels are supported by abundant pinkish-white connective tissue. Submitted separately is a fibrous 52 mm. strand of opaque to pinkish-white tissue. Representative sections are submitted for microscopic examination. Microscopic Examination: Sections include a portion of fibroareolar stroma in which are segments of nerve and ganglion. Additional sections through vessel disclose fibrosis of subintimal stroma of artery with evidence of continuity with vein structure. An additional section of artery reveals calcification with plaque formation. Diagnosis: Arteriovenous Fistula, right popliteal area."

COMMENT

A bullet wound of an artery may give rise to a traumatic aneurysm (pulsating hematoma) if only the artery is affected.[4] If the vein is injured in addition an abnormal communication is set up between the 2 systems and gives rise to a distinctive set of symptoms which include venous insufficiency and associated ulceration, gangrene, thrill and bruit, cardiac enlargement and cardiac failure, and, in growing children, increased growth of the extremity. Janes[3] has used the latter to good advantage in leg inequality by the surgical creation of an arterio-venous fistula in the short leg. Frequently the patient is aware of a murmer in the region of a penetrating wound. The condition may be present wherever the varicose veins are unilateral and where there is chronic insufficiency after an injury and when one limb is warmer than its companion member. The classical thrill and bruit of an arteriovenous fistula do not occur in any other condition. Surgery is indicated for the prevention or relief of chronic venous insufficiency and its complications as well as the prevention of myocardial insufficiency or bacterial endocarditis which may occur in the condition.[2] An adequate time should be given for the development of good collateral circulation prior to excision of the fistula. The latter requires meticulous hemostasis as well as the maintenance of all collateral circulation.

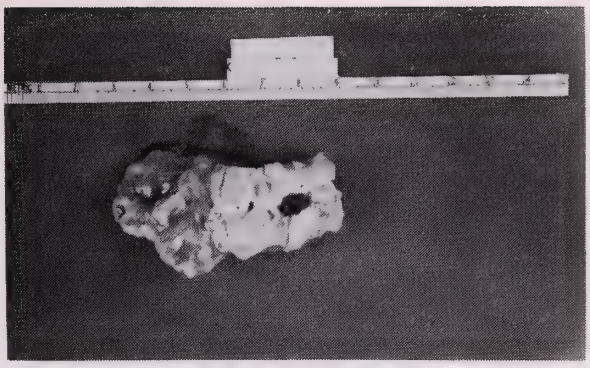


Fig. 3. Photograph of the pathological specimen showing the abnormal communication between the artery and vein. In the fixed specimen this measured 10 x 6 mm., but it was much larger when observed on the operating table.

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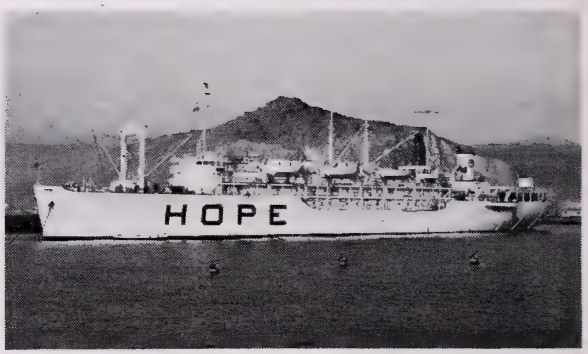
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Scientific PAPER

PROJECT HOPE*

George W. Knabe, Jr., M.D.
Vermillion, South Dakota



The S.S. HOPE anchored near the North Peruvian city of Trujillo.

One of this country's most successful experiments in improving international relations through medical assistance is Project HOPE (Health Opportunities for People Everywhere). This program of the People-To-People Health Foundation employs a former naval hospital ship to bring American medical skills and techniques to foreign lands. The project was initiated and is directed by William B. Walsh, M.D., a Washington, D. C. internist. It is an entirely private venture which draws support from individual citizens and from U. S. industry and labor. The government has loaned the hospital ship, but it does not otherwise contribute to or influence the program.

The project centers about the S.S. HOPE, formerly the U.S.S. Consolation, a 15,000 ton 524 foot ship equipped as a 230-bed general hospital. It is complete with operating rooms, wards for male and female medical and surgical patients, a pediatric ward, various specialty clinics, a clinical laboratory and

* Based on a talk to the 67th Annual Meeting of the Sioux Valley Medical Association, February 21, 1963. Dr. Knabe served with Project HOPE during September and October, 1962.

blood bank, radiology department, physical medicine and rehabilitation department, an EKG and BMR laboratory, pharmacy, dental clinic and many other hospital services. There are the usual supply and maintenance divisions and a large kitchen and laundry. The entire staff and crew are housed and fed aboard ship.

The hospital is staffed by U. S. physicians and dentists representing all fields of medicine who volunteer for two-month periods of service. There are about fifteen to twenty such doctors. Five permanent staff help maintain the continuity of the program. These include a general practitioner, two pediatricians, a neurologist and an orthopedic surgeon. In addition, there are 35 nurses, 4 nurse-anesthetists, a pharmacist, eight laboratory technologists, three X-ray technicians and an EEG-EKG-BMR technician, five medical secretaries, a medical librarian, two record room librarians, a hospital administrator, a dietician, medical supply clerk and maintenance man.

During 1961 the HOPE visited ports in Indonesia, Saigon and South Viet Nam. In Indonesia alone 700 major operations were performed, 18,000 patients treated and more than five hundred physicians and nurses were trained. The ship was well received and left a favorable impression in that part of the world. In the Spring of 1962 the HOPE headed for Latin America. It was invited to Peru by the Peruvian-North American Medical Association, an organization of physicians most of whom had received some training in the United States. Its arrival was preceded by an advance unit from Project HOPE which spent about two months in the country. Prior to this there had been six to eight months of preliminary discussion by representatives of the project. The ship anchored near the North Peruvian city of Trujillo (Population, 53,000) where a teaching arrangement had been made with the University of Trujillo's newly reorganized school of medicine and the affiliated Hospital Belen.

Medical conditions are bad in Peru, where the death rate is ten times as high as that in the United States. Respiratory diseases, pneumonia, tuberculosis and influenza, are important causes of death. No lesser scourges are whooping cough, measles, diphtheria and a number of other diseases no longer considered major health problems in our country. The resistance of the people to all types of disease is, of course, greatly lowered by malnutrition and parasitism. Infant mortality is exceedingly high.

The mission of the program, as stated by the People-To-People Health Foundation, is as follows: "Project HOPE brings the skills, techniques and habits developed by the American medical, dental, nursing and paramedical professions to the people of other nations in their own environments, adapted specifically to their needs and their way of life." Aboard ship, the project is a demonstration of how medicine is practiced in an average hospital in the United States. In Peru, local doctors, many of them from the Trujillo area, were invited to spend periods of several months working side-by-side with American physicians in the care of patients. Many of them closed their offices so as to be able to participate in this great educational effort. The patients admitted to the ship were selected on the basis of teaching value and need. They were screened by teams of Peruvian and American physicians in the clinics at Belen Hospital. Then they were transported by bus or ambulance to dockside at the nearby port of Salaverry and transferred to the ship by launch. Unfortunately many more patients sought treatment on the HOPE than could be accommodated. During the 1962-63 operation in Peru over 1600 patients were admitted to the floating hospital and about 6000 outpatients were seen. Also 1600 operations were performed on ship.

During the year period the project was in Peru, fifty-four physicians received intensive post-graduate training in the various specialties of medicine for periods from two to nine months. Approximately twenty-five other physicians came for shorter periods of time as observers on the ship. One hundred and fifty medical students from the University of Trujillo served in a clinical clerkship program in groups of twenty-seven for six to eight weeks each. In addition, sixty-five Peruvian hospital workers of all classes were trained on the ship for duties in a new regional hospital being built in Trujillo. Project HOPE in Peru operated as a form of in-

ternational residency program in which the hospital was brought to the residents.

A medical program on shore at the Belen Hospital was similarly developed and operated as a cooperative effort with the Peruvian medical personnel. Hospital Belen is a thirty-five year old concrete building with 550 beds. It is a general charity hospital which has oversized wards, inadequate laboratory facilities, insufficient equipment and supplies and a dearth of trained personnel. At the beginning of the program there were only sixteen nurses to care for about 700 patients, some of the latter accommodated two to a bed. There were several different medical, surgical, obstetrics and pediatric divisions in the hospital, each under a separate chief with different policies and regulations. This decentralized administration resulted in poor organization and operation. Specialists from the HOPE worked in the wards, operating rooms, laboratories and clinics of this hospital in an effort to help to elevate standards of hospital practice. Informal practical teaching here was supplemented by classes, seminars and clinico-pathological conferences for the staff and medical students. Over 12,000 outpatients were seen by Project HOPE personnel at the Belen Clinic. Four thousand inpatients were seen for treatment and teaching purposes, and three hundred major surgical procedures were performed by surgical demonstration teams of American doctors and nurses. There were two hundred outpatient cataract operations performed.

A notable achievement was the initiation of child and maternal welfare and general medical clinics in three of the largest "barriadas" or slums surrounding Trujillo. In the course of a year, more than 6,000 people were seen in these clinics, 55,000 immunizations against polio, diphtheria and pertussis, typhoid and tetanus were given, and 3,000 persons were screened by chest X-rays, which revealed a 30% incidence of active tuberculosis in some areas. Although Peruvian physicians were at first reluctant to participate in these clinic programs, their interest finally was great enough to ensure continuance of them. In addition to these activities on ship and on shore on Trujillo, HOPE personnel were involved in health programs elsewhere in the vicinity and in the country. Teams of physicians, dentists and nurses worked for periods of a few days to three months at various hospitals throughout Peru, including those in the cities of La Oroya, Tarma, Talara, Piura, Chiclayo, Arequipa and Lima.

Much was accomplished in the year that Project HOPE was in Peru. When the ship arrived in May, 1962 there were strong manifestations of communism and Castroism in Trujillo. Most of the people had little or no knowledge of Americans, and many were suspicious of the motives of the project. Soon, however, the Peruvians came to understand its humanitarian mission and became appreciative of the medical care and training that was being provided them at no cost. In July, 1962 when a military junta overthrew the government there was even concern that the ship might leave the country. The new military government was quick to pledge its full cooperation and thus this difficult period in the politics of the Peruvian government had no adverse effect on the project's work.

That Project HOPE was successful was evidenced by the crowd of 20,000 Peruvians that gathered in the Trujillo stadium in the ceremony of tribute prior to the ship's leaving, and by the more than 30,000 persons who lined the Pacific shore to silently watch the great white ship steam away. Later Dr. Fernando Cabieses, President of the Peruvian-North American Medical Association in a statement to our House Foreign Affairs Committee on March 15, 1963 said: "Project HOPE has shown the way in Trujillo, Peru. The S.S. HOPE has returned to the United States after a ten months successful mission — and it has left behind there, as it did in Indonesia and Viet Nam, a true legacy of learning, a real people-to-people communication. Project HOPE has served Americans well and the people of Peru will not forget their friends."

The S.S. HOPE is now preparing for another voyage, this time to Ecuador. The ship will depart from New York November 20, 1963, and arrive in the port of Guayaquil on December 2nd. As before, the Project will establish a relationship with the medical school at Guayaquil and will develop its pro-

(Continued on Page 28)



AN APPROACH TO AMENORRHEA

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The patient who presents herself with the primary complaint of absent or infrequent menstrual periods and is not pregnant, is often a difficult diagnostic problem. This is particularly so if the failure to menstruate or the very infrequent menstrual periods are symptoms of a long duration. It is best to begin by reemphasizing that amenorrhea is a symptom, not a disease, and that the major difficulties in diagnosis arise because there are so many endocrine organs, each with a potential variety of disorders, of which the end result may be a failure of normal menstrual function.

It is simplest to think of the problem by dividing amenorrhea into four groups. It may be either primary or secondary; it may be either physiologic or pathologic. In assessment of amenorrhea we have found the accompanying chart to be of prime importance in organizing our thinking. This is modified from Jamison, Dees and MacDonald, since I believe their excellent work is worthy of wider distribution. Modifications have been made with our increasing knowledge in this complex field.

It is first necessary to exclude physiologic amenorrhea. Primary physiologic amenorrhea is that that occurs before the menarche. For practical purposes we have taken an upper limit of 17 years, if all other factors appear to be normal, before considering a failure to menstruate abnormal. Secondary

physiologic amenorrhea is usually due to pregnancy or occurs in the postpartum period. The amenorrheas associated with lactation include breast-feeding, the Chiari-Frommel syndrome, which is persistent lactation and amenorrhea following pregnancy, or the Del Castillo syndrome which is amenorrhea and lactation unassociated with pregnancy; drug induced lactation and amenorrhea, particularly related to some of the "tranquilizer" drugs, and, of course, the exclusion of pituitary tumors responsible for these abnormalities. If the amenorrhea does not fall into one of these categories it is then a distinctly pathologic, as opposed to physiologic, amenorrhea and can be satisfactorily investigated in the order of this "flow chart."

A detailed history and thorough physical examination are obviously of prime importance. In the history, details of any drug administration, weight changes of magnitude, and pertinent endocrine history in the mother and sisters are of particular importance. Signs of any endocrine disorders should be carefully sought for during the course of the physical examination.

An initial office evaluation should include an evaluation of estrogen production for which the general physical development, cytology, and fern pattern of the cervical mucus will serve best. If possible, and if pregnancy can be excluded, an endometrial biopsy should be carried out. A buccal smear will serve as a screening procedure for any of the chromosomal abnormalities. If there are no contraindications, 50 mg. of progesterone, either aqueous or in oil, may be given intramuscularly and the patient observed for withdrawal bleeding in a period of approximately 5 days. If the patient resumes cyclic menses the amenorrhea has probably been psychogenic or potentially drug induced.

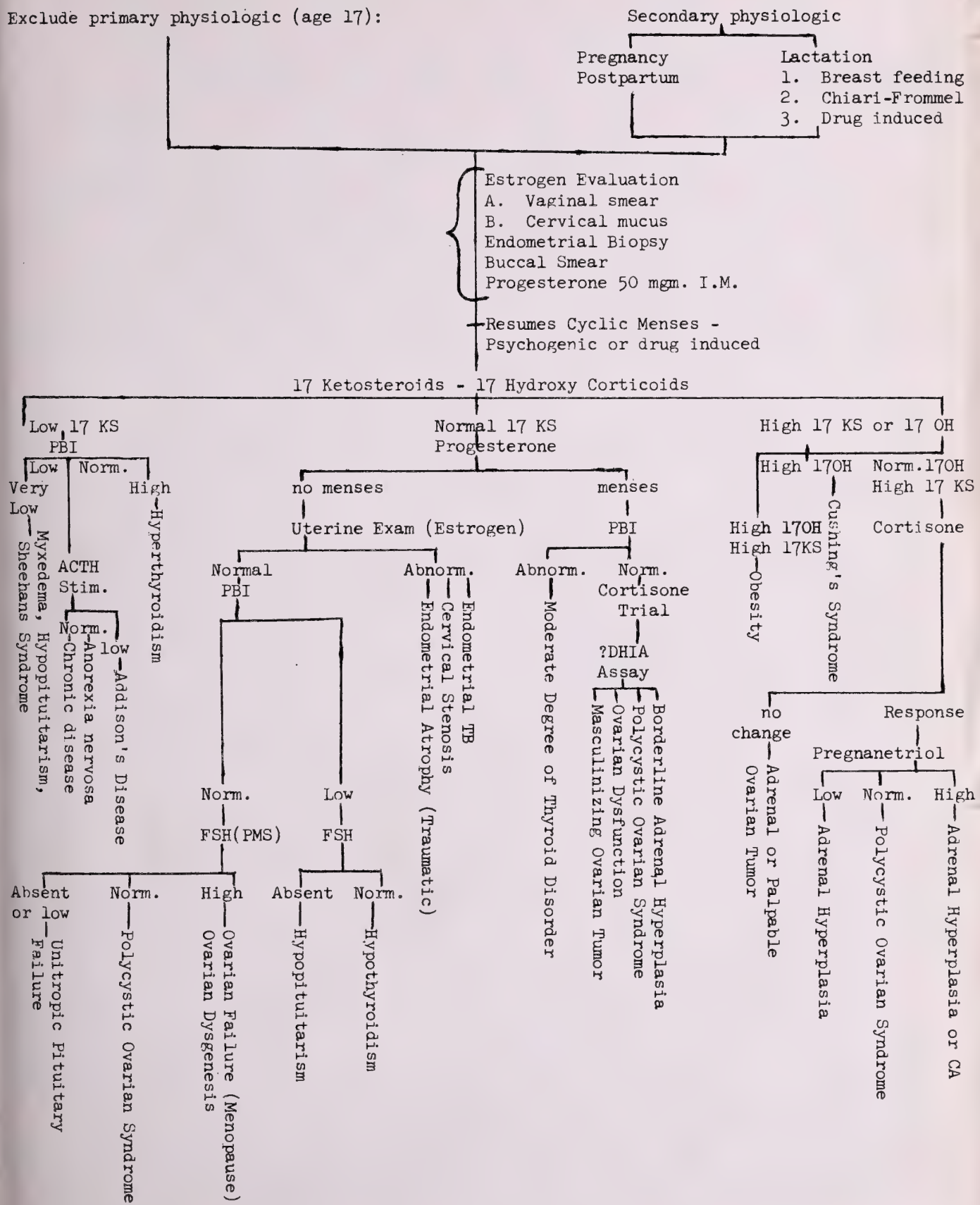
If a diagnosis has not been obtained by these measures, it is recommended that a 24-hour urine specimen be obtained for evaluation of the 17-ketosteroid and 17-hydroxy corticoid levels being excreted.

If the 17-ketosteroid levels are distinctly low, thyroid function should be evaluated next. As the chart indicates, this group of patients may have hyperthyroidism, myxedema, hypopituitarism or postpartum pituitary atrophy (Sheehan's syndrome). If thyroid function is normal, the response of the 17-ketosteroids to adrenal corticotrophic hormone stimulation should be observed to distinguish between those patients with Addison's Disease and those who manifest some other chronic disease or anorexia nervosa.

If either the 17-ketosteroids or 17-hydroxy corticoids are elevated beyond the range of normal, more specific endocrine abnormalities have to be considered. If both these levels are moderately high this may manifest simply marked obesity, the so called Pickwickian syndrome. The 17-hydroxy corticoids will, of course, be markedly elevated in Cushing's syndrome but will be normal in a series of other disorders in which the 17-ketosteroid levels may be elevated. If the latter circumstance is demonstrated, a trial of cortisone suppression should be carried out. We favor for this trial either Methyl Prednisolone, 4 mg., 3 times daily, or Dexamethasone, 0.75 mg., 3 times daily, over a period of 5 days' time. If the 17-ketosteroid levels do not fall, an adrenal tumor or carcinoma, or androgen secreting ovarian tumor which may very well be palpable must be considered. If the 17-ketosteroids do fall satisfactorily, a pregnanetriol determination should be obtained. This may be either markedly low or high in the case of adrenal hyperplasia depending upon the site of the enzymatic blockage. If this patient exhibits the polycystic ovarian syndrome, (Stein-Levinthal syndrome) with the borderline or slightly elevated 17-ketosteroid level which is sometimes observed, the pregnanetriol determination should be normal.

A more complicated diagnostic problem occurs in those patients in whom the 17-ketosteroid and 17-hydroxy corticoid excretions are normal. The response of these patients to a single intramuscular dose of progesterone should be evaluated. If the patient fails to menstruate, the uterus should next be tested for normality by first priming the patient with an estrogen such as 2 mg. of stilbestrol daily for 20 days, followed by intramuscular progesterone. If the patient fails to bleed in response to this pattern, uterine anomaly, cervical stenosis, rarely endometrial tuberculosis, or traumatic endometrial atrophy, as from an over vigorous curettage, should be considered. If the pa-

AMENORRHEA


Exclude primary physiologic (age 17):
Secondary physiologic
Pregnancy
Postpartum
Lactation
1. Breast feeding
2. Chiari-Frommel
3. Drug induced
Estrogen Evaluation
A. Vaginal smear
B. Cervical mucus
Endometrial Biopsy
Buccal Smear
Progesterone 50 mgm. I.M.
Resumes Cyclic Menses - Psychogenic or drug induced
17 Ketosteroids - 17 Hydroxy Corticoids
Low 17 KS
PBI
Low
Norm.
High
Very Low
Myxedema, Hypopituitarism, Sheehans Syndrome
Hyperthyroidism
ACTH Stim.
Norm.
low
Anorexia nervosa
Chronic disease
Addison's Disease
Normal 17 KS
Progesterone
no menses
menses
Uterine Exam (Estrogen)
PBI
Normal
Abnorm.
Endometrial TB
Cervical Stenosis
Endometrial Atrophy (Traumatic)
PBI
Abnorm.
Norm.
Moderate Degree of Thyroid Disorder
Cortisone Trial
?DHIA Assay
Borderline Adrenal Hyperplasia
Polycystic Ovarian Syndrome
Ovarian Dysfunction
Masculinizing Ovarian Tumor
Norm.
Low
FSH(PMS)
FSH
Absent or low
Norm.
High
Absent
Norm.
Unitropic Pituitary Failure
Polycystic Ovarian Syndrome
Ovarian Failure (Menopause) Ovarian Dysgenesis
Hypopituitarism
Hypothyroidism
High 17 KS or 17 OH
High 17OH
Norm.17OH High 17 KS
High 17OH High 17KS
Obesity
Cushing's Syndrome
Cortisone
no change
Response
Adrenal or Palpable Ovarian Tumor
Pregnanetriol
Low
Norm.
High
Adrenal Hyperplasia
Polycystic Ovarian Syndrome
Adrenal Hyperplasia or CA

tient does respond with bleeding, thyroid function should be ascertained. If thyroid function is markedly low, a determination of pituitary gonadotropins (FSH) will determine whether this amenorrhea is on a basis of hypothyroidism or hypopituitarism.

In the very important group of patients in whom the uterus does respond to estrogen and progesterone and in whom thyroid function is normal, determination of the pituitary gonadotropin level is of utmost importance for diagnosis. If these gonadotropins are absent or low, a unitropic pituitary failure has been diagnosed. This problem occurs more commonly than is generally realized and these girls in many instances appear perfectly normal in other respects. If, beyond the age of 17, the pituitary gonadotropin level is high, either ovarian failure (premature menopause) or ovarian dysgenesis (Turner's syndrome) can be diagnosed. The latter is usually accompanied by numerous physical abnormalities and the buccal smear should demonstrate an absence of sex chromatin. If these levels are normal, one of the variants of the polycystic ovarian syndrome likely exists.

In the individual with normal 17-ketosteroid levels who responds to progesterone with bleeding, thyroid function should also be analyzed. If this is abnormal the amenorrhea may be presumed to be due to a moderate degree of thyroid disorder.

The group in whom thyroid function is normal and all other tests are normal and who will respond to progesterone with uterine bleeding, presents diagnostic difficulties and unfortunately contains many of the individuals who present themselves with amenorrhea. Careful search for ovarian enlargement is necessary in this group but this may still not be diagnostic. These patients may exhibit borderline adrenal hyperplasia with only minimal elevation of the 17-ketosteroids. They may have variants of the polycystic ovarian syndrome or "ovarian dysfunction," a euphemism for our lack of knowledge in this field. A masculinizing ovarian tumor may also exist since particularly with arrhenoblastoma the androgens produced are usually not reflected by an increased level of 17-ketosteroid excretion. We believe such patients should have a low dose trial of cortisone suppression over two to three months' time, to see whether or not ovulatory menses can be re-established. In attempts to distinguish between adrenal and ovarian etiology, urinary assays for dehydroisoandrosterone (the beta fraction of 17-K S) have been suggested, with elevated levels supposed to suggest an adrenal as opposed to an ovarian etiology. However, the enzymatic defects and pathways of biosynthesis exhibit so many variations that while helpful, this is by no means diagnostic. It is our own impression that before a patient is considered for potential ovarian wedge resection for the polycystic ovarian syndrome, all of these studies including thyroid function, cortisone trial failure, and a normal level of pituitary gonadotropin must be demonstrated.

It must be emphasized that any such chart is no substitute for the physician's clinical ability. In many instances the diagnosis may be obvious without following the various steps of this chart, or history and physical examination may suggest that some particular step is most important to be carried out first. However, in the cases which are more difficult, a well organized diagnostic approach may be of considerable help in the diagnosis of this puzzling condition.

REFERENCES

1. Jamison, H. B., Dees, D. B., and MacDonald, T. C.; **B. Sloane Hosp. for Women,** Vol. 7: 3 pp. 67-71, 1961.

PROJECT HOPE—

(Continued from Page 24)

gram in cooperation with Ecuadorean physicians and other health workers.

Project HOPE has great expectations. As voiced by Senator Humphrey, there is the hope that some day there will be a "— Great White Fleet — a fleet of ships, ready and available for emergency assistance in any part of the world; particularly medical education ships or hospital ships, which can dock at any harbor and treat the sick, train the native doctors, retrain nurses, and upgrade medical education. All this can be done." The yearly cost of this project is about $3,500,000, roughly the cost of a shot from any of our missile bases. The cost is small considering the good the project does.



NOW IS THE TIME

"Government is not reason, it is not eloquence — it is force! Like fire it is a dangerous servant and a fearful master; never for a moment should it be left to irresponsible action."

George Washington

One vote (or dollar) in favor of a candidate who supports your position is worth a dozen letters to an already elected congressman. In the final analysis decisions of government are made at the polls.

Yet in this age of affluence ninety percent of those eligible do not exercise this right, either because they do not vote or because they are uninformed. There are few physicians who do not go to the polls, but there are many who fail to put forth the effort necessary to become familiar with the issues at hand and the views of candidates. The direct result of our failure to cast an informed vote has been to lose control of **our** government. Those whom we have elected may consistently act against the best interests of the majority of citizens and yet when the next election rolls around we have forgotten — or never knew it in the first place. Because we are, by and large, economically quite secure, we have lost that healthy fear of government that motivated the men who drafted our Constitution.

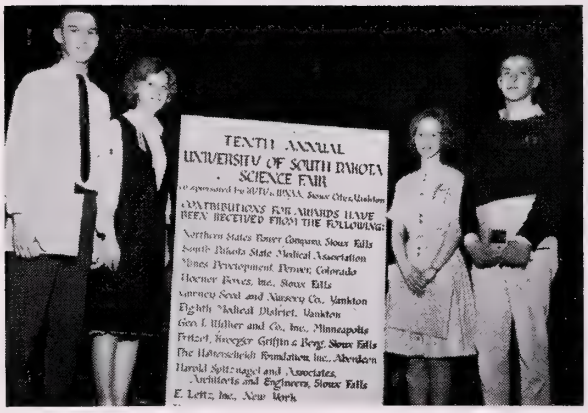
Are the purposes of government any different now than they were then? Government can act only through force or the threat of force — there is no other way. This simple truth may be a bit of a shock to some but it is, nonetheless, true; and it is one of the basic reasons for our Founding Fathers' fear of government.

Are you concerned about the continued expansion of Federal government, about the increasing pressures to bend Congress to the will of the executive, about the stretching and distortion of the meaning of our Constitution? "Who shall rear again the well-proportioned columns of Constitutional liberty" if these tendencies continue to their inevitable conclusion?

Your opportunity is before you! SoDaPAC and AMPAC are your organizations and their sole purpose is to help elect men and women to political office who share our views. Let your voice be amplified by your interested and active participation in these organizations.

Bill G. Church, M.D.

LETTERS TO THE EDITOR



April 27, 1964

South Dakota State Medical Association
Mr. John C. Foster, Executive Secretary
300 First National Bank Building
Sioux Falls, South Dakota

Gentlemen:

Enclosed you will find a program for our Tenth Annual Science Fair, toward which you so generously contributed. We are also enclosing a photograph of some of the winners together with one of the several signs listing the donors.

Again accept our most gracious thanks for your donation toward the advancement of science in our youth.

Sincerely yours,
Robert E. Stevenson
Chairman, Awards Subcommittee
Professor of Geology

April 9, 1964

Dr. Richard Erickson
Executive Secretary
South Dakota Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Dr. Erickson:

I want to express my sincere gratitude for the $100 gift given to me by the Association at the Medical School Banquet in Sioux Falls last Saturday evening.

I feel very fortunate to be a part of the medical training program in South Dakota and I do appreciate your encouragement.

Sincerely,
Thomas C. Johnson

April 21, 1964

Mr. Richard Erickson, Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Mr. Erickson:

I recently was awarded a tuition scholarship for my freshman year at the University of South Dakota Medical School. This scholarship was granted by funds from your organization. I wish to extend my sincerest gratitude to the South Dakota State Medical Association for this scholarship. It is at times like this that living in this great country of ours is appreciated the most.

Gratefully yours,

Gerald D. Loos
921 East Walnut
Vermillion, South Dakota

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PRESIDENT'S PAGE



Fellow Members:

I visited our State Hospital at Yankton this year several times. The last visit was in the nature of a schooling process at which I found a good number of my South Dakota colleagues. The reason? It was the initial attempt at getting practicing family physicians to assume their proper place in the treatment of the mentally ill. It followed two similar one day sessions at Rapid City and Sioux Falls utilizing the psychiatrists in our State as the teaching Staff. The conclusion at the Yankton State Hospital and the excellent clinical presentation by Dr. Lawrence Behan's Staff was most valuable information to all of us who were present.

We were invited by his Staff to see whatever we wished and were conducted on a tour of the Hospital facilities. I can report to you, as can my colleagues, that Yankton State Hospital is a modern, well run psychiatric Hospital with the avowed purpose of returning the mentally ill to their homes. I am making a pointed suggestion that each of you visit our State Hospital. Dr. Behan has assured me that you will be welcome and, knowing his Staff, I am certain that, even in his absence, you will be enthusiastically welcomed.

You should be the first to become acquainted with the plans that your State's citizens have for Mental Health and Mental Retardation. Reprinted is a chart which was presented to the Mental Health Congress in Pierre, May 16, 1964. You will note that we have four (4) physicians represented on the existing schedule. I have marked seven other places where I feel we should have physicians. I feel certain that we should be asked to serve and I feel that Dr. Van Heuvelen would want medical consultants in these capacities. This organization, doctors, is without benefit of our planning and represents what South Dakota lay people want.

We know that we need some additional help on the psychiatric facilities. It is proposed that a psychiatric intensive treatment unit be established at Rapid City. Why there? These folks have already done the most and I am certain that they could accomplish this goal more easily than any other existing Mental Health Center. I am aware that there might need to be other similar units at Sioux Falls, Aberdeen, etc. in the near future. We must start somewhere and hope to accomplish our mission. I merely suggest Rapid City and not because I am from there but I have observed that they have advanced the furthest in this concept.

I feel that we must somehow cover psychiatric ills in some fashion by Blue Shield and Blue Cross. I point out that Mutual of Omaha has such a policy in force now.

The problem of the criminally insane is a dire threat to our present State Hospital at Yankton. Those of us who visited there know that this problem is one for a penitentiary type establishment. Rather than build one of our own we might, more logically, "rent" space from one of our neighboring States like Nebraska whose unit to house 125 now houses 100. But we must do something!

The juvenile and child problem in psychiatry is again one of the things we must tackle head on. Perhaps a separate unit with maximum security facilities etc. could be established at Sioux Falls where the resident psychiatrist there could, perhaps, be utilized on a part time basis. At present we are wrong in placing these children in adult facilities at Yankton. This might also be considered but we must do something somewhere.

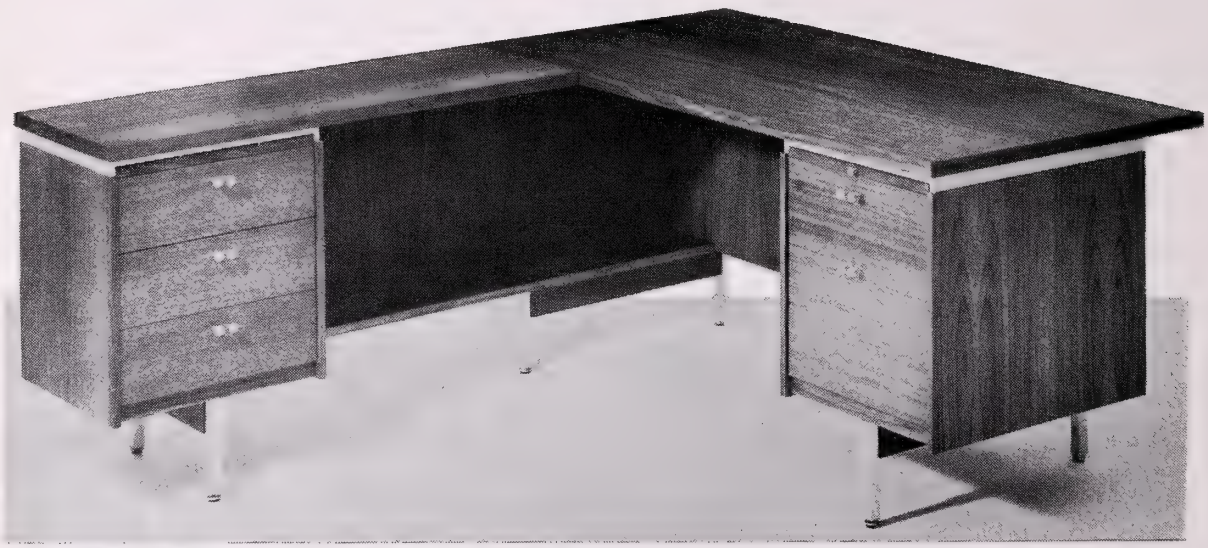
We have not touched upon alcoholism. Here is a field which we must get into. I need not tell you of the need but I do suggest that again we establish a separate facility — perhaps at Pierre. If we are going to succeed in treatment here we must somehow separate facilities from those of our State Hospital.

All of us, I am sure, are aware of the problem of the senile citizen with regard to Mental illness. However, with new physician retraining and expanding nursing home facilities, maybe these things can be overcome to a great extent. I am satisfied with the excellent care the senile patient receives at our State Hospital because I visited those wards on an announced and unannounced trip. Dr. Behan's Staff is to be complimented for a difficult task well done.

In all seriousness, you see we cannot hide from the leadership which we must give these problems. We doctors must be at the head of this relief column for the besieged workers in the field of Mental Health and Mental Retardation.

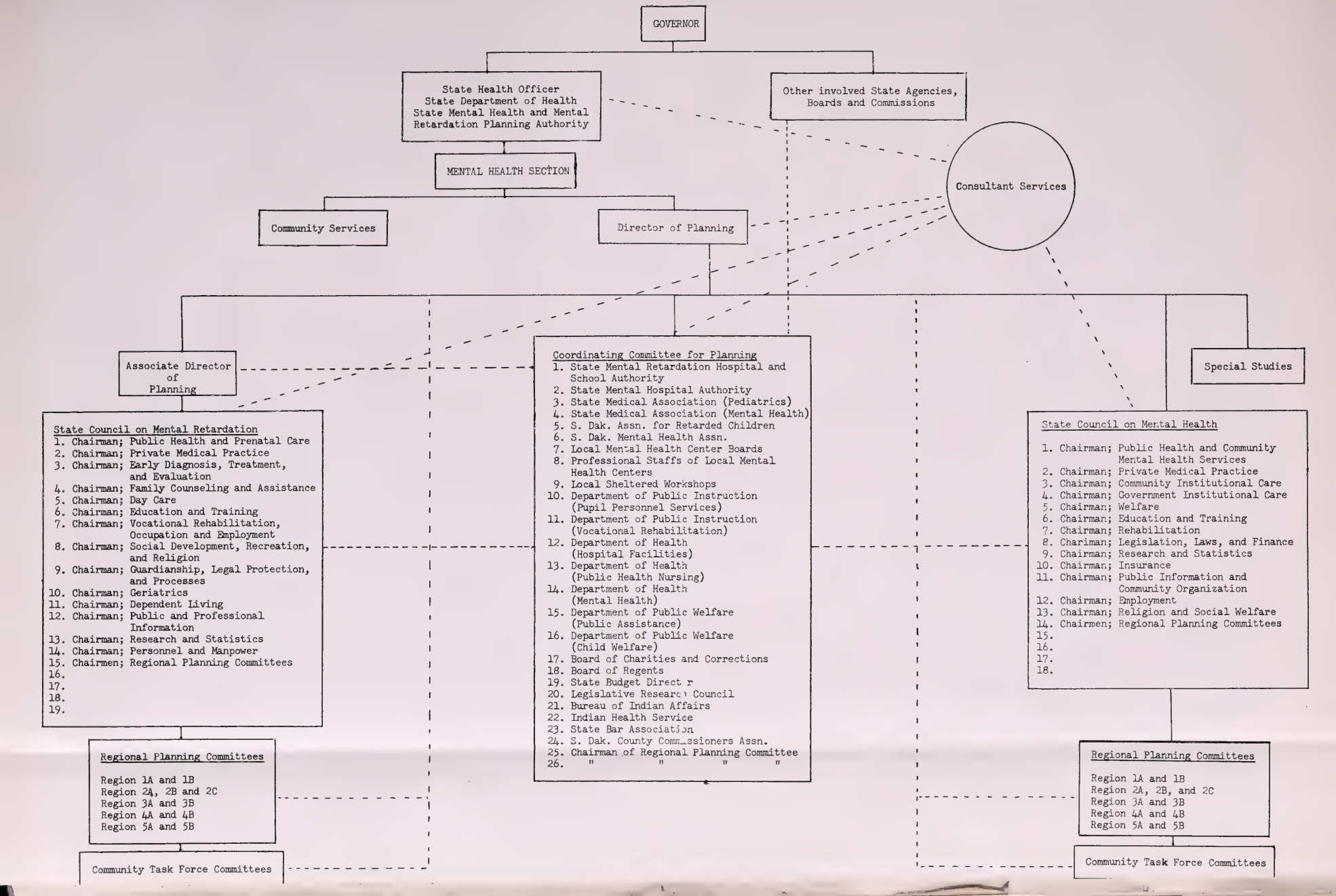
Fraternally,
Robert H. Hayes, M.D.

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Organizational Chart for Comprehensive Planning
Mental Health and Mental Retardation



MEDICAL LIBRARY BOOKSHELF



The April 20, 1964 issue of the **Journal of the American Medical Association** is a special book number. Beginning on page 264 are collections of recent medical books in the fields of Cardiology; Psychiatry; Endocrinology; Gastroenterology; Medical Genetics; and Pulmonary Diseases.

This would be a good buying guide for medical librarians and for those practicing medicine desiring to add recommended books in the above mentioned fields to their private libraries.

The books on Cardiology were selected by Dr. G. E. Burch and Dr. N. P. Pasquale of the Department of Medicine of Tulane University School of Medicine, with the purpose in mind of aiding nonspecialists.

Recommended was the 5 volume work, **Cardiology: An Encyclopedia of the Cardiovascular System** (A. Luisada, ed.) Blakiston, although the price, $127.50 is prohibitive for students, interns and residents. These volumes are in our Medical Library and could be borrowed by anyone in the medical profession.

Modern Trends in Cardiology (A. Morgan Jones, ed.) Hoeber, 1961, presents recent advances in selected aspects of cardiology, and should appeal to both the internist and the cardiologist.

Highly recommended are the 2 volumes of **Handbook of Physiology** (W. F. Hamilton, ed.) American Physiological Society. These are devoted to the circulation and should be of value to any serious student of cardiology. (These are in our Medical Library).

Two excellent basic science studies are **The Myocardium — Its Biochemistry and Biophysics** (A. P. Fishman, ed.) American Heart Association, and **Plasma Membrane** (A. P. Fishman, ed.) American Heart Association. These symposia contain papers on selected topics. **Coronary Heart Disease** (H. L. Blumgart, ed.) American Heart Association,

is a monograph of value to those involved in the management of cardiac patients.

Clinical Disorders of the Heart Beat by S. Bellet, Lea and Febiger. Ed. 2, 1963. This is one of the most complete works in English on the subject of arrhythmias and every cardiologist should have access to this book. Recommended for the practicing physician is **The Exercise Electrocardiogram in Office Practice** (E. Gray Dimond) Thomas, 1961. Details are given of method and interpretation as well as precautions of the electrocardiogram, obtained after exercise.

Cardiac Arrest and Resuscitation (B. B. Milstein) Year Book Medical Publishers, 1963 is an excellent monograph for all physicians regardless of field of specialization.

Principles of Clinical Electrocardiography (M. J. Goldman) Lange Publishing Co., Ed. 4, 1962 is inexpensive and worth purchasing.

Reviews of selected books in Endocrinology were contributed by Dr. Thomas Frawley, Department of Internal Medicine, St. Louis University School of Medicine. A phone call from Dr. Roy K. Kramer of the Yankton Clinic resulted in our sending him 3 volumes of **Human Endocrinology** (H. S. Kupperman) Davis Co., 1963. He was interested in these volumes because Dr. Kupperman, Associate Professor of Medicine at New York University College of Medicine was one of his instructors.

Also recommended is **Metabolic and Endocrine Physiology** (J. Tepperman) Year Book Medical Publishers, 1962. The review states "Brilliant in its simplicity it will serve beautifully as the foundation for understanding endocrine physiology. Like a good novel, once started it is hard to put down."

In the reviewers opinion the most comprehensive textbook is **Textbook of Endocrinology** (Robert H. Williams, ed.) Saunders. Ed. 3, 1962. "It has just the right mixture of basic and clinical endocrinology and is an excellent reference for the specialist as well as the practitioner."

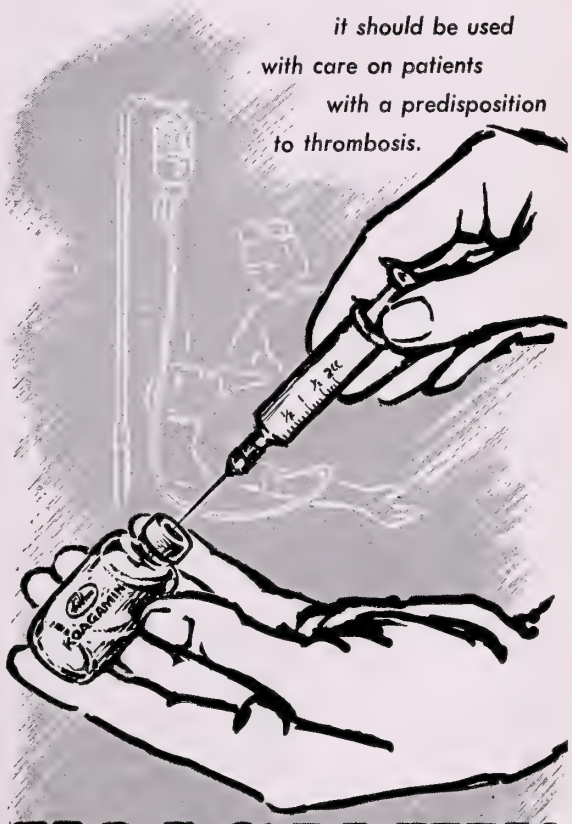
(Continued next month)

Mrs. Esther Howard
Medical Librarian

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SOUTH DAKOTA
JOINT COMMISSION FOR THE IMPROVEMENT OF CARE OF THE PATIENT

MINUTES

March 18, 1964 — MARVIN HUGHITT HOTEL
HURON, SOUTH DAKOTA

MEMBERS PRESENT:

SOUTH DAKOTA MEDICAL ASSOCIATION
C. L. Vogele, M.D.—Aberdeen
J. A. Muggly, M.D.—Madison
D. J. Buchanan, M.D.—Huron
M. E. Sanders, M.D.—Redfield

SOUTH DAKOTA HOSPITAL ASSOCIATION
Ronald Hanson—Brookings
William T. Murphy—Pierre
Sister M. Innocentia—Huron
Lyle Schroeder—Sioux Falls
Zella Messner—Pierre
Ernest Forbes—Mitchell
Edna Davidson—Madison

SOUTH DAKOTA NURSES' ASSOCIATION
Bernetha Damm—Sioux Falls
Sister M. Rita—Mitchell
Matilda Bloem—Emery
Veronica Goebel—Faulkton
Sister M. Natalie—Huron

SOUTH DAKOTA LEAGUE FOR NURSING
Jane Hewett—Mitchell
Katherine McKillop—Mitchell

PARTICIPATING GROUP MEMBERS
Thomas B. Schultz—
Department of Hospital Facilities
Sister M. Vivian—
South Dakota Nursing Homes Association
Mary Ochs—
South Dakota Board of Nursing

GUESTS:
Sister M. Mona—Pierre

Date and Place:
The eighteenth meeting of the SDJCICP was held as a luncheon meeting at the Marvin Hughitt Hotel in Huron on March 18, 1964.

Call to Order:
The meeting was called to order by the chairman, Dr. C. L. Vogele.

Minutes:
The minutes were read by the secretary and approved as read.

Treasurer's Report:
The treasurer reported that since the March, 1963 meeting disbursements amounted to $22.66, leaving a balance on hand as of March 18, 1964 of $30.22.

Old Business:
There was no old business.

New Business:
After a discussion of the financial report, it was decided to write the parent organizations for their usual contributions.

Assessment:
The assessment is to be made as follows: South Dakota Medical Association and South Dakota Hospital Association each $10.00 — South Dakota League for Nursing and South Dakota Nurses' Association each $5.00. The secretary was instructed to write each parent organization regarding the assessment.

Election:
Dr. C. L. Vogele, chairman, and Florence Atkinson, vice-chairman, were re-elected to serve for another term.

Program:
The topic for discussion was "The Outpatient and Emergency Care Service of Hospitals." The program participants were: Zella Messner, Matilda Bloem, Dr. Sanders, Sister Natalie, and Dr. Vogele.

Purpose of Program:
This program was prepared for the purpose of assisting towards a better quality of care of the Outpatient and Emergency Care Departments of hospitals.

Study:
A nationwide study of hospital emergency rooms shows that emergency room visits have increased fourfold since 1945 and that nearly half of these visits are for nonemergency problems. In 1962, 218,973 outpatients were cared for in hospitals in South Dakota. A breakdown of this number according to size of hospital is as follows:

0-25	26 hospitals	15,361 visits
26-50	26 hospitals	101,041 visits
51-75	5 hospitals	23,811 visits
76-100	2 hospitals	16,744 visits
101-125	3 hospitals	11,148 visits
126-150	3 hospitals	17,348 visits
151-175	none	
176-200	1 hospital	5,999 visits
201-225	2 hospitals	13,458 visits
226-250	none	
251-300	1 hospital	14,063 visits

Outpatients during 1962	218,973
Inpatients during 1962	117,882

Because of this increase in Outpatient care, physicians and other professional persons concerned with hospitals and general medical care have become acutely aware of the problems arising from this growing patient load.

Reasons for Increase:
Some reasons for the increase in Outpatients are: (1) Third party payment, (2) Increased number of accidents, (3) Opportunity to see doctor without waiting for an office appointment, (4) The public has come to depend upon the hospital being open day and night and being a place where anyone may apply and expect service as his need may indicate.

Factors to Consider:
In setting up facilities to care for the Outpatient, the hospital should consider the following:

1. Physical layout — This may be determined by the size of the hospital and the community needs, but one would need to consider adjacent facilities, equipment and supplies.
2. Organization — Consideration should be given to formation of policies, especially in the areas of medical staff and nurse coverage, and patterns of care.
3. Public relations — Always be conscious of public relations in dealing with the patient, patient's family, law officials, news reporters, ambulance drivers, etc.
4. Medical records — Accurate records are a must: (a) Needed for statistical purposes (b) A record of medical care (c) Legal — 75% of records being subpoenaed come from the emergency room.
5. Value as a teaching area — One of the most valuable teaching areas for medical students, student nurses, and other members of the health team.

Discussion:
In discussion of Outpatient care several points were brought out by program participants and other members of the group. A few are as follows:

1. If you are going to provide emergency room care keep it staffed with a capable R.N.
2. In making policies for emergency room care define what is "emergency" and what is "outpatient." (What may appear to be "outpatient" to the nurse may be termed "emergency" by the patient.)
3. Medical staff should work out a plan for covering outpatient and emergency care. Emergency patients should be seen within fifteen minutes.
4. It is very poor public relations to turn anyone away; the hospital can be held liable.
5. The doctor is one reason for the increase of outpatients in the hospital. (a) X-ray and laboratory available to the doctor in the hospital 24 hours a day. (b) Doctor says, "Go to the hospital. I'll meet you there."

Recommendation:
At the close of the program a recommendation was made that members of the JCICP bring this information to their parent organizations and encourage them to give thought to participation in programs for the improvement of hospital emergency facilities.

Program for September Meeting:
Suggestions were made as to the program for the September meeting. As some of the members expressed a desire to learn more about the programs for preparation of nurses and the areas of responsibility for nurses, it was decided that the next program should be "Preparation and Utilization of Nursing Personnel."

Date of Next Meeting:
The date for the next meeting will be September 30, 1964.

Adjournment:
Meeting adjourned.

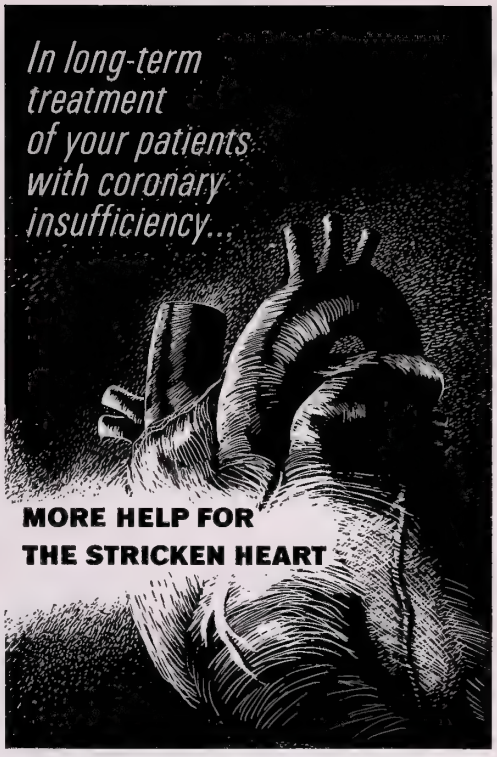
Katherine McKillop, Secretary

W. B. SAUNDERS COMPANY features the following new books in their full page advertisement appearing elsewhere in this issue:

CHILD — THE LIVER AND PORTAL HYPERTENSION
New! —The first of a series of monographs on selected major problems in clinical surgery. Covers all aspects of the subject.

BEARD AND WOOD — MASSAGE
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NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverb

With age, stiff joints and muscles are expected; a stiffened mind is a tragedy.

NEWS NOTES

November 13-16 at the Statler-Hilton Hotel, Detroit, Michigan, are the dates and place of the 1964 convention of the National Society for Crippled Children and Adults.

* * *

Physicians from more than 50 countries will present papers and discuss the recent advances in cardiovascular and pulmonary diseases at the VIII International Congress on Diseases of the Chest to be held in Mexico City, October 11-15, 1964. All physicians are invited to attend this important Congress. For further information write to the American College of Chest Physicians, 112 East Chestnut Street, Chicago, Illinois, 60611.

* * *

E. T. Lietzke, M.D., recently attended the annual national meeting of the American Academy of General Practice in Atlantic City, New Jersey. Dr. Lietzke was a delegate from South Dakota.

Arthur A. Lampert, M.D., of Rapid City, has been reappointed a member of the council on legislative activities of the American Medical Association. The AMA Council has as its goals: review legislation and recommend policy, keep constant surveillance over the legislative scene, serve as a reference council on legislative matters, recommend changes in policy positions to meet current problems, and anticipate and offer early solutions to legislative problems.

* * *

Charles R. Turner, M.D. of Brookings, was recently named to the third position on the All-State Trapshooting team. Appropriate brassards will be awarded at the State Shoot to be held near Sioux Falls June 26-28 at the Crooks Gun Club.

* * *

At the recent meeting of the A.M.A.'s Speakers' Bureau in Chicago, **Dr. Robert Quinn** of Sioux Falls was awarded a portable podium, for presenting one of three top speeches during the meeting. Dr. Quinn has since donated the podium to the State Medical Association.

G. Robert Bartron, M.D., Watertown physician, has announced his candidacy for the Republican nomination for state senator from Codington County.

* * *

COMING MEETINGS

The following postgraduate courses are being offered at the University of Colorado School of Medicine in Denver, Colorado.

July 6-9
Ophthalmology (Estes Park, Colorado)

July 20-25
Tenth Annual General Practice Review

July 29-31
Three Days of Cardiology

August 3-7
Pediatrics (Estes Park, Colorado)

August 17-21
Medical Audiology Workshop (Estes Park, Colorado)

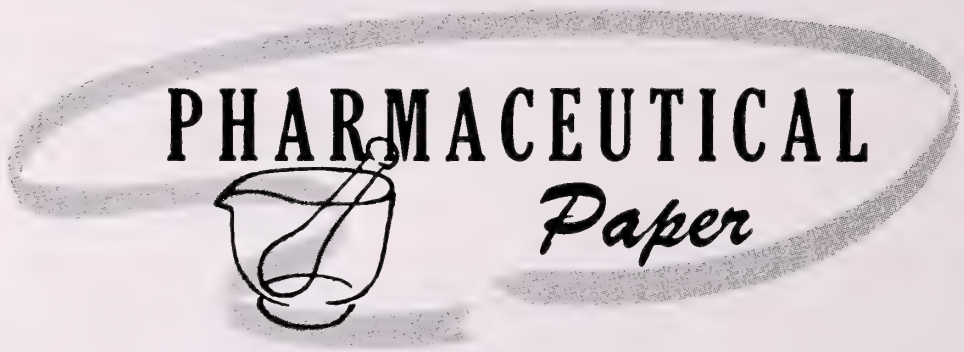
September 21-25
Pulmonary Disease Seminar (Fitzsimmons General Hospital)

October 5-7
Fractures

For further information write to: The Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, Colorado 80220.



GARY OMODT, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



WANTED: A CONCEPT OF HYGIENE FOR THE ANTIBIOTIC ERA

—The scientist had achieved what he believed to be reasonable control over the monster. One night, however, when he was working in his laboratory with his back to the monster, it attacked and destroyed him—.

The above paragraph could well be taken from a science-fiction novel but it is also painfully analogous to the battle of mankind against the disease-producing micro-organism. Recent triumphs by scientists over infectious diseases may be only temporary and fleeting unless the rest of humanity enlists in the struggle—in the home, office, factory, school, and public eating place.

Wise men have often noted that events of the past and the present are reflections of each other. It is as true in medicine as in morals. Until three decades ago, medicine's major role in combatting infectious disease was prevention. Then came the sulfa drugs which checked the gram-positive bacteria, including pneumococci and streptococci. They were followed by the penicillins which were even more effective against the same types of bacteria. Thereafter came the tetracyclines and other broad-spectrum antibiotics which helped stem the inroads of gram-negative germs as well.

A decade ago, one could rejoice that the typical pneumonias were seldom fatal. Young M.D.'s were graduated from medical school without ever having seen a mastoid operation. Whooping cough had all but disappeared. Bacterial endocarditis was controlled. Diphtheria was almost a thing of the past. So were osteomyelitis, tularemia, puerperal fever, wound infections, syphilis, and gonorrhea. A millenium in medicine seemed to have arrived.

Then the worm — the bacteria — turned. Epidemics of hitherto quiescent bacteria, normal inhabitants of man's nose, ears, scalp, skin, and gut, struck in hospitals from coast to coast and overseas. The dreadful new germs were mutations of the common, dominant strains. Their victims were mainly newborn infants, postoperative patients, the elderly and weak. "Cross infections" . . . "hospital epidemics" . . . "hospital staph" . . . became fearsome phrases. There was a time in the latter '50's when pregnant women refused to enter hospitals for childbirth and patients, requiring surgery, refused it out of fear of infection. New drugs, new hygienic regulations and techniques reduced the danger and the fear, but they have not eradicated the steady encroachment of hospital staph infections into the home and the community.

The need to improve preventive measures against such infections is implicit in the continuing reports of antibiotic resistant infec-

tions. The U. S. National Health Survey has recorded this by quarters, from July, 1957, through June, 1961. In those four years, the incidence of infections rose from just over four persons per one hundred to slightly more than eight per one hundred. From a highly respected clinic in the East comes a recent, detailed report which emphasizes this increase. The rate of deaths from infections in that medical center over an eighteen-month period ending in 1961 reached approximately the same level as that recorded **before the introduction of antibiotic medicine.**

As evidence that a constant guard must be kept against increasing infections caused by mutants of once relatively nonvirulent bacteria, one should also cite two even more recent publications: (1) An editorial in the August 3, 1963, **Lancet,** English medical journal; (2) A topical report in the August 15, 1963, **New England Journal of Medicine.**

Lancet says: "Staphylococcal infections in hospitals seldom fail to make headline news . . . Staphylococci in the home have attracted less attention. Being inhabitants of the skin, these organisms can readily spread via the bath and the communal towel within a family and beyond.

"Staphylococcal lesions in the home are seldom more than skin deep — e.g., boils. But furunculosis can be a serious matter for the individual and even for the household . . . Occasionally the organisms erupt — or are driven — beyond their skin-deep follicles to cause metastatic lesions such as osteomyelitis or even septicemia. They can sometimes persist in the household as easily as in the hospital ward: There have been families where a boil on the father's neck was followed by osteomyelitis and septicemia in one of his children.

"Management of this kind of infection requires **detection, hygiene,** and **chemotherapy** in that order. Antibiotics may be required if the lesions are extensive, but the usefulness of simple antiseptics and lotions to control skin colonization should not be overlooked."

The **Journal** report, from M.D.'s on the faculty of the University of Pittsburgh, is a clear exposition of the risks involved in failure fully to employ proven nursery hygiene technique. For three years there had been no serious outbreak of staph infection among the infants in this hospital nursery, although there had been a consistent incidence of ten to twenty per cent of mild pyoderma in infants followed through the first three weeks of life. Then, suddenly, in a period of fifteen days, fifteen infants in one nursery population of 104 were stricken with serious staphylococcal skin infections, three with exfoliative dermatitis.

The report comments: "The epidemic was remarkable in the early appearance of clinical manifestations, the severity and variety of the lesions and the rapid disappearance of the offending staphylococci . . . Staphylococci 3B/71 phage pattern could not be isolated from the newborn population sixteen days after the first disease appeared and fourteen days after the entire nursery population was placed on daily **hexachlorophene** baths."

This represents no sudden discovery of the value of antiseptic detergent in control of hospital staph infections. Like other hospitals in which antibiotic-resistant staph have been a problem, this hospital (Magee-Womens) had instituted a procedure requiring physicians, nursery personnel, and technicians to wash their hands with hexachlorophene detergent after handling an infant. Daily hexachlorophene bathing also was practiced with premature babies, but full-term infants received only water baths confined to the creases.

A dramatic example of how staphylococcal infections move into the community appeared in the July 20, 1963 issue of the **Journal of the American Medical Association.** The report is that of a group of four investigators who conducted an epidemiological study of staph infections in a detached community of young married graduate students with a high proportion of young children. Most of the families relied on a community laundry, many were closely associated, especially neighboring children. Thirty-one per cent of families with children reported staph infections, but only ten per cent of those without children. Mothers ranked highest as staph carriers, but the over-all carrier rate was higher than those reported for other populations. The conclusion: (1) Hospitals were the

origin of the staph infections which came home with the newborn baby; (2) Housekeeping and laundry practices perpetuated and redistributed the bacteria.

Pre-antibiotic concepts of hygiene in disease prevention may well be as outdated as pre-antibiotic treatment for pneumonia.

The point to be made at the moment is that hospital cleanliness, since it involves primarily handwashing, can be extended into the home, into factories, offices, schools and public eating places.

Antibacterial washing compounds used routinely by medical personnel are available in any drugstore. One of these, widely employed by surgeons, is a creamy emulsion known as Phisohex, which inhibits the growth of bacteria and leaves a semi-permanent bacteriostatic film on the skin which prevents reproduction of germs. Hospital tests of this antibacterial wash, begun more than a decade ago, led first to its extensive use by surgeons. Later, persistent germ-destroying capabilities of the wash were repeatedly demonstrated and discussed in medical journals the world over, the technique became increasingly employed by nurses for washing their hands before and after handling patients; by food handlers in hospital kitchens; by physicians between patient visits; by personnel of nurseries for the newborn where spread of virulent germs is justly feared.

Such hospital methods which help to **prevent** spread of infections (not to be confused with cure or medical treatment of infections) are equally applicable in the home. A high degree of "hospital cleanliness" of the hands and body has become attainable. It is the first step toward preventing spread of infections.

SEEDBEDS IN THE SKIN — Germs are unavoidable. They abound in our environment and in and on our persons. Those germs we call bacteria are simple, microscopic plants, of unimaginable antiquity, capable of surviving under conditions that would destroy higher forms of life. A few chemicals and excessive heat can kill them outright. Most of man's other weapons against bacteria merely tend to reduce their numbers. Soap is one. It clears bacteria from human skin chiefly by physical removal. The hardier bacteria — and staph is a good example — can actually be found and will actually grow on bars of soap and in the semiliquid sludge so often found in soap dishes. In fact, the family soap dish can even become a source of contamination, spreading a resistant staph infection from one person to another.

Unfortunately for our general health, man is a natural host for staph. While they can survive in a soap dish, they reproduce readily in their normal "homes," the human nose and throat, and on the skin, deep within the pores and hair follicles.

It should be remembered that many bacteria do not cause disease and may be helpful to man, and there is no doubt that most staph are not virulent; some staph that cause boils, abscesses or more serious infections in susceptible persons may do no harm at all to others who carry and spread them. Such persons are called "carriers."

Germs are communicated in many ways, through the air, by way of contaminated clothing and other materials, by physical contact, food, and eating utensils. Hygienic precautions — muffling of sneezes, use of disposable tissues, generous applications of cleansing agents and water, sterilization of dishes, and the like, are well known, especially to mothers who supervise family health and introduce the young — often over protest — to practices of sanitation.

Teaching children to wash their ears and necks is essential, but handwashing is vital. The **human hand** is the most important vehicle for transporting germs from person to person.

One's hands and other skin areas are variously populated by numerous and changing kinds of germs. Skin, which is a barrier against a germ-laden world, nonetheless supports two kinds of bacteria. "Transient" bacteria are surface contaminants of the skin. "Resident" bacteria are more stable population groups, largely staphylococci but including other organisms that find people congenial hosts, with which we live in more or less amiable co-existence unless some circumstance opens opportunities for mischief.

Although soap-and-water washing removes many transient bacteria, resident bacteria are less affected. Some may be removed rather slowly and inefficiently by prolonged scrubbing, but they have great recuperative powers. Surgeons who scrub with soap and a stiff brush, rinse, repeat and repeat, and finally rinse their hands in seventy per cent alcohol, have virtually germ-free hand surfaces when they don their rubber gloves. But, after long operations, colonies of bacteria will have proliferated in pores and follicles of the skin, and accumulate in the perspiration. A superior germ-destroying cleanser should have prolonged antibacterial action, be non-irritating, soothing to the skin (many doctors scrub or wash their hands thirty times a day or more), and it must be a better cleanser than ordinary soap. Soaps, to a varying degree, are alkaline and keratolytic — that is, they reduce the natural acidity and speed up normal drying, skin-scaling action of the skin.

The conflict, between hordes of attacking organisms and atoms of defending substances, can only be fully appreciated by the initiate. The concepts of asepsis and antisepsis, pioneered by Semmelweis and Lister, established ideals so far beyond the abilities of soaps and carbolic acid that only a few sought to achieve them. All surgeons must be included among these few, and they know from bitter experience and frustration how extraordinarily difficult it is to rid the skin of bacteria, how swiftly skin colonies repopulate cleaned skin, and how devastatingly effective are hands as transporters of disease germs and transmitters of infections. It has become evident that hospital infections as such, and resistant cross infections especially, are less likely to be air- or dust- or bedding-borne than spread by hand.

A definitive study by Dr. Charles H. Rammelkamp, Jr., Professor of Medicine at Western Reserve University, suggests that the hand is most responsible in spread of infections. He studied the mode of transmission of staphylococci in a section of a hospital nursery isolated as a test laboratory.

The greatest source of infection was found to be the nurses who cared for the infants. Two nurses were nasal carriers of different types of staph. Although they wore two masks and scrubbed their hands with soap between contacts, they transferred their organisms to the infants "presumably because their hands were contaminated."

Dr. Rammelkamp concludes that "the most efficient methods of (germ) transmission are indirect where the organisms are carried in the nose, then transmitted to the hands, and finally to the patient."

TENDER LOVING CARE — The most dangerous hours of life are those immediately following birth. Unlike adults, newborn infants do not have resistance to staph bacteria. They are introduced abruptly to a contaminated and stressful world and begin immediately to acquire bacteria from their environment. Among the most feared of recent years are the resistant staph, which can cause abscesses, impetigo, boils, conjunctivitis, forms of pneumonia and other deep-seated infections. Such infections may be relatively minor in adults, but often lead to fatal consequences in the newborn.

As a first line of defense, in many hospitals newborn babies receive an immediate antiseptic bath, with special attention to the umbilicus, and the baths are repeated daily. The central clinical investigator in antiseptic wash techniques has been Dr. Louis Gluck, formerly of Stanford and now of Yale, and the reports have been published in the **New England Journal of Medicine.** The authors concluded: "this study thus lends further weight to the belief that umbilical-cord or cutaneous colonization precedes nasal colonization (by resistant staph). Therefore, if surface colonization can be prevented, nasal colonization is prevented **ipso facto,** and there is every likelihood that systemic staphylococcal disease is also prevented."

Many staph infections are not manifested until some time after the baby comes home from the hospital. For this reason many hospital nurseries and pediatricians urge the mother to continue at home the same antiseptic baby baths and personal handwashing that she had learned in the hospital.

Nursing infants who are not necessarily ill, but who harbor staph colonies in their noses or respiratory tracts, may contaminate

the mother with organisms that cause mastitis or breast. abscess. It is believed that breast infections in mothers of nursing babies are caused by germs transferred from infant nostrils.

MUST THEY ALL "COME DOWN WITH IT"? — There is no way to cure a cold, or the viral respiratory infections that seem indistinguishable from colds. Nevertheless, valuable steps can be taken to limit the spread of infections that tend to run through households and elementary schools (not to mention children's camps, offices, factories, and military training centers).

Isolation of the patient, separate eating utensils sterilized after use, sanitary collection of disposable tissues and other contaminated materials, hand washing before and after direct contacts, are all helpful. Hand-to-person transmission of bacteria is obviously minimized by meticulous cleanliness; a separate gown or cover-all garment worn by the nurse in the sickroom, careful disposal of bandages, separate handling and boiling of bedding and bed clothing also are important. Very much the same standards of nursing cleanliness maintained in hospitals may be achieved by the home nurse, who, of course, usually is the mother.

Minor first-aid emergencies of the skinned knee or "kiss it and make it well" variety occur repeatedly in normal households. First-aid experts advise that abrasions, bruises, scratches, bites, and the like be washed thoroughly and covered with a sterile bandage, preparatory to seeing a doctor, if that is necessary. A nonirritating antiseptic wash of some injuries would help to clean and degerm the area and would leave a film inimical to bacteria.

Infection is always a serious threat of other than trivial burns. An emergency medical treatment of burns involving less than twenty per cent of the body surface, described by Dr. A. G. Shulman in the **Journal of the American Medical Association** (August 27, 1960), follows the procedure of immersing the burned area in cold water to which ice cubes and hexachlorophene are added. All of 150 burned patients, treated within one hour of injury, had prompt relief of pain and there were no subsequent infections.

FOOD POISONING — A common form of food poisoning in the U. S. is caused by staph germs which, under favorable conditions, can multiply and produce toxins that ignite internal disasters in persons eating them. Mass food poisonings often make newspaper headlines, as in a recent instance of West Pointers laid low by an officers' luncheon that featured turkey a la King and Roquefort salad dressing. Countless other food poisonings occur sporadically among restaurant patrons, in the home, after family picnics or outings.

Most food poisoning is not a direct hand-to-mouth matter; an intervening stage of staph proliferation is necessary. How do staph germs get into foods? Almost always from the hands of food preparers or handlers, which may look clean and be free of dirt but are not germ-free. Food that is consumed immediately after preparation, even though it may contain germs, rarely causes serious bacterial poisoning because the bacteria have not had time (usually twenty-four hours) to reproduce in sufficient numbers to cause trouble. Foods kept at room temperature or higher for some time provide increasing opportunity for bacteria to multiply and produce toxins. Obviously, spoiled, moldy, or bad-smelling food, and food from bulging cans or leaky jars, should be discarded without tasting. Unfortunately, staph-poisoned food often **looks, smells, and tastes** as it should, giving no warning of danger.

Refrigeration inhibits bacterial growth. Cold cooked protein foods should be kept refrigerated at temperatures of forty degrees Fahrenheit or less, until the last possible minute before use. They should not be left standing at temperatures higher than forty degrees for longer than three hours.

Foods most often causing bacterial food poisoning are creamed dishes, custards, potato salad, egg foods, oily dressings, ham and other cold meats. These are, unhappily, the very ones most favored for picnics and outings.

Clean clothing, scrupulous personal cleanliness, washing of raw fruits and vegetables, good refrigeration, and care in storing foods are important safeguards.

THE DISGRUNTLED SKIN — If beauty is only skin deep, so, very often, is comfort.

A blemished, itchy, erupted or infected integument is a distressing burden. Our skin is mostly what others see of us, and skin disorders — especially pustules or other signs of infection — are hard on our self-respect. Many disorders that show on the skin require skilled medical care and a prudent person naturally will not attempt self-treatment.

Acne with its blackheads, pimples and blemishes may be no threat to life, but it is sheer misery to millions of young people. So many factors are involved — adjustments of endocrine glands, excessive skin-oil production, diet, and others—that underlying causes of acne are hard to identify. There is no specific cure, but dermatologists agree that thorough cleansing of the skin to remove grease, dirt, and germs is most important in its control. Patients are advised to wash the face or affected areas three to four times a day. Some mild cases clear up with no other treatment than frequent washing and perhaps elimination of chocolate, iodized salt, or a few other articles of diet, as the doctor advises.

Unfortunately, repeated overly vigorous scrubbings of the skin with soap and rough washcloths may rub the already irritated skin raw and invite infection. Although acne is not caused by specific germs, infection does play a prominent role. Acne begins as a waxy plug of a hair follicle. But it is the growth of bacteria within the follicle behind the plug that produces the typical swollen, inflamed, pustular pimple. Picking, rubbing, and squeezing the pimple spread the bacteria. For this reason, many physicians recommend antiseptic washings as adjuncts to treatment. Acne never disappears overnight. A good deal depends on the faithfulness of the patient in carrying out hygienic measures that the doctor cannot perform for him.

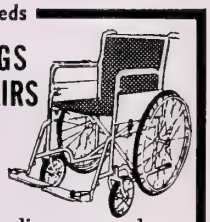
Intolerable itching invites, indeed practically demands, scratching which may dig and gouge irritated skin and break it open to infection. Chickenpox, prickly heat, infant eczema, many industrial dermatoses, are examples of skin disorders that cause rubbing and scratching. Cleanliness is important, yet alkaline soap-and-water washing may further irritate inflamed skin. The **antibacterial wash** is not a primary treatment of disease, but a kindly means of assisting sick skin to marshal its defenses and get well.

THE BACTERIAL BACKGROUND OF ODORS — Perspiration by itself is remarkably inoffensive. The nasty ability of bacteria to decompose it into malodorous products supports a considerable market in deodorants. Perfumes, or at least their desirability, may be credited in part to bacteria. Various modern deodorants contain antiseptics, volatile dryers, nice scents, and astringents that inhibit the activity of sweat glands. A more effective approach is elimination of skin bacteria.

The feet and other body areas are sites of trouble. Impaired circulation of some diabetics leaves their feet extremely vulnerable to infection, with serious consequences that may even lead to amputation. For many diabetics, therefore, the effectiveness of antiseptic foot baths is more vital than odor elimination alone. Meticulous foot care is enjoined upon diabetics by their physicians.

MAN VS. MICROBES — Treatment and cure of infectious disease must rest in medical hands alone. Yet preventive medicine cannot reach its fullest possibilities without the intelligent cooperation of the public. Germs are with us always, and always before we are aware of any illnesses they cause. Simple newer methods of maintaining cleanliness are helpful preventives of transmission of infections.

Perhaps nothing is more dispiriting to guilty germs than people who come into court with clean hands.

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TO WHOLESALERS, MANUFACTURERS AND OTHERS CONCERNED:

SUBJECT: Unauthorized Signatures on Official Opium Order Forms (Form No. 2513)

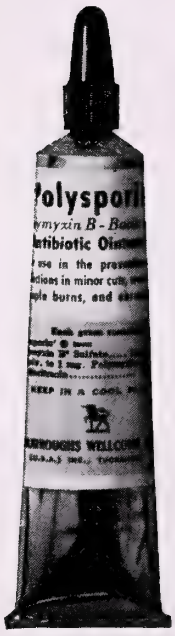
Examinations of the triplicate copies of official opium order forms reveal that many of these forms are signed by unauthorized persons. Section 151.165 (a) and (b) of Narcotic Regulations No. 5 states, in part, that the official narcotic order forms shall be signed by the purchasing registrant in the same form as on the application for registration (Form No. 678) or may be signed by another person authorized by power of attorney (Form 1315) previously filed with and approved by the District Director of Internal Revenue. Under no circumstances should other persons sign these forms.

We find that most of these violations occur at the retail level. Certainly pharmacists are well aware of the responsibilities associated with the purchasing of narcotic drugs. The order forms are intended solely to cover dispositions of taxable narcotic drugs and preparations to registered persons. Part of the system for controlling narcotics is dependent on these order forms. Therefore all registrants are cautioned to avoid violating the regulations by properly executing these official order forms.

George H. Gaffney
Acting Commissioner of Narcotics

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in treating topical infections, no need to sensitize the patient



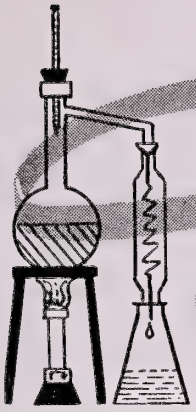
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Advances In Drug Research

CANCER TREATMENT WITH ANTIBIOTIC MITHRAMYCIN IS DESCRIBED

An antibiotic little known to the general public, mithramycin, has been under clinical investigation for more than two years against a variety of human cancers.

Dr. Sydney Kofman, of Presbyterian-St. Luke's Hospital and the University of Illinois College of Medicine, Chicago, described his findings at the meeting of the American Association for Cancer Research.

Dr. Kofman treated more than one hundred patients with mithramycin. Although nearly thirty per cent of these patients showed some evidence of initial improvement, the benefits of mithramycin treatment in many instances were of relatively short duration. In nine cases, however, worthwhile improvement was maintained for periods longer than six months.

The most encouraging results occurred in patients with embryonal cancer, an undifferentiated type of tumor noted for its rapid growth and tendency for early spread to other parts of the body. Four patients with embryonal cancer are still maintaining their tumor regressions after periods of eight to twenty-five months. Four other patients with embryonal cancer showed significant but more transient tumor regressions.

One of the more interesting observations reported by Dr. Kofman was the improvement which occurred in about one-third of the patients with metastatic tumors to the brain. Although in most cases the improvement was of short duration, control of the patients' neurological symptoms was maintained for over eight months in three cases.

As with almost all anti-cancer drugs, side effects limit the dosage of mithramycin. These side effects have been decreased by improvements in technique worked out by Dr. Kofman, and further studies along these lines are continuing. So far, the usefulness of mithramycin seems limited to certain types of cancer such as the undifferentiated types known to the medical profession as anaplastic cancers.

Chemically, mithramycin is unique among cancer drugs in that its structure is composed of only the elements carbon, hydrogen and oxygen. Most standard cancer drugs in use today contain at least one atom of nitrogen, chlorine or sulfur. An experimental drug, mithramycin's use is still restricted to certain qualified clinical investigators at various medical centers.

Mithramycin is an antibiotic prepared by fermentation with a soil organism of the **streptomyces** group. It was discovered at the John L. Smith Memorial for Cancer Research, Maywood, New Jersey.

GAINS REPORTED IN CANCER TREATMENT WITH ANTIBIOTIC STREPTONIGRIN

Clinical investigators reporting on their work with the anti-cancer drug streptonigrin, have recorded gains in treatment from improved methods of administration. A greater

degree of response and lessened side effects were both noted in certain types of cancer.

A study conducted at New York University utilized four routes of administration for streptonigrin: oral, continuous intravenous infusion, continuous intra-arterial infusion, and isolation perfusion. The method of administration was determined by the location and accessibility of the tumor and its biological nature.

A total of eighty patients in the study were evaluated. Objective response — meaning a significant reduction in tumor size — was seen in thirty-one, or about thirty-nine per cent.

In the series utilizing the oral route of administration, the drug was as effective as in the parenteral routes.

Best responses were observed in a series of twelve patients with malignant lymphomas, a cancer involving the lymph glands, with ten objective responses or regressions. Five out of seven patients with a disease known as mycosis fungoides, a cancer primarily involving the skin, showed a definite therapeutic benefit for varying lengths of time.

An unexpected but encouraging finding was the improvement of three patients with cancer involving the head and neck area. However, only two responses were observed in the series of twelve patients with widespread cancer of the breast.

In carcinoma of the uterine cervix, all three patients treated showed a response when streptonigrin was used by the technique of isolation perfusion, a method of flooding local areas of the body with a relatively higher concentration of the drug.

It was pointed out that in many of the tumor categories studied, the number of patients was small.

Side effects, relative to streptonigrin therapy, consisted mainly of depression of blood cells and gastro-intestinal upsets.

It was concluded that streptonigrin has demonstrated effectiveness over varying periods of time in several types of cancer and therefore represents a worthwhile addition to the list of present anti-cancer drugs.

Streptonigrin is an antibiotic prepared by fermentation with a soil organism called **Streptomyces flocculus.** It was discovered at the John L. Smith Memorial for Cancer Research, Maywood, New Jersey.

IMPROVED CANCER TECHNIQUE USES PORTABLE PUMP

A method of providing continual administration of a cancer drug by means of a portable, miniature pump which the patient carries at all times has demonstrated improved results using the anti-cancer drug streptonigrin.

The technique of continuous intravascular infusion was described by Dr. R. D. Sullivan of the Lahe Clinic in Boston, at the meeting of the American Association for Cancer Research.

Dr. Sullivan's theory was that the exposure of the malignant cells to the drug for a full twenty-four hours a day instead of at intervals, must inevitably affect more of them as they enter certain phases of their reproductive cycles when they may be more vulnerable to the effects of streptonigrin.

Out of a total of forty-seven cases, thirty-nine received sufficient therapy to be evaluated. Of the thirty-nine, sixteen patients achieved tumor regression and clinical benefit, or tumor shrinkage of thirty to forty per cent for one month or more.

Best responses were seen in cancer of the lung and in lymphosarcoma, a type of cancer which affects the lymph glands. However, the number of patients was too small to offer any conclusions as to the types of cancer most responsive to streptonigrin.

The use of the continuous infusion technique decreased side effects notably. About one-third of the patients experienced nausea, fewer than half showed any hematological toxicity.

Dr. Sullivan's conclusion was that continuous intravascular infusion of streptonigrin decreases its side effects without loss of antitumor effects. The therapy achieved with streptonigrin compares favorably with that of **5-fluoro-uracil,** but without the degree of nausea and other disabling gastro-intestinal side effects of the fluorinated pyrimidines.

PENICILLIN CALENDAR

1928-29—English microbiologist, Alexander Fleming (later knighted) observed and recorded antibacterial activity of secretion of penicillium notatum mold, which he named penicillin.

1940—Chain-Florey group at Oxford reinvestigated penicillin, prepared a dry, stable extract, conducted toxicity and other biological tests.

1941—Howard Florey (also knighted) and N. G. Heatley of the Oxford group came to U. S. and obtained governmental, industrial, and institutional help in solving the problem of mass production.

1943—Deep tank fermentation techniques began producing penicillin in limited quantities, allocated mainly to U. S. and allied military.
Penicillin F, produced at Oxford, and G, produced in U. S., found to be sodium salts, similar but not identical.
Programs to synthesize pencillin began in U. S. and Britain.

1944—Penicillins X and K produced.

1945—Structure of penicillin molecule and side chains of F, G, X, and K elucidated. Penicillin available in sufficient supply for general use.
Original price **$20 per 100,000 units,** by 1945 reduced to **sixty cents per 100,000 units.**

1948—Long-acting penicillin which made possible one-shot treatment of syphilis and yaws, reduced need for injections in other infections, developed by Bristol Laboratories. A crystalline procaine penicillin G in oil, with two per cent aluminum monostearate, it provided effective penicillin blood levels for more than ninety-six hours, was named Flo-Cillin "96".

1953—Penicillin V isolated, identified and purified, 1953-54, by researchers in several fields. High resistance to destruction by gastric acid made it useful as oral medication.

1957—First unequivocal total synthesis of a penicillin announced by Dr. Sheehan at M. I. T. who had been working on the problem with Bristol support for a ten year period.

1959—First synthetic penicillin developed commercially jointly by American and British laboratories (Bristol Laboratories and Beecham Group respectively). Method combined fermentation of 6-aminopenicillanic acid — 6-APA, the penicillin nucleus — as discovered by Doyle and Rolinson and developed to a practical commercial scale by Bristol Laboratories, and the coupling to it of a synthetic side chain by Perron and Cheney. A potassium penicillin, it resembles penicillin V with a methyl group (CH_3) added. For oral use.

1960—Second synthetic penicillin developed. A specific for antibiotic-resistant staphylococci. Again the result of British-American collaboration. It is sodium dimethoxyphenyl penicillin. Injectable only.

1962—Sodium oxacillin developed and introduced as third result of Bristol-Beecham collaboration. Resistant both to gastric acids and to penicillinase, it is indicated specifically for outpatient use, since it can be taken orally.

1963—Ampicillin, first "extended-spectrum" penicillin which exhibits antibacterial activity approximating that of other broad-spectrum antibiotics. Introduced in 1962 in Britain. After further clinical testing in U. S., to be made available here. Fourth Bristol-Beecham development. To be taken by mouth.

A NEW NON-ADDICTING PAIN-KILLER

Climaxing his fifteen-year search for a non-addictive pain-killing drug, Professor Marshall D. Gates, Jr. of the University of Rochester Department of Chemistry has discovered a "morphine-antagonistic" compound which, according to preliminary tests, is **forty times as powerful as morphine.** The compound is one of a series of such drugs which Professor Gates has synthesized.

Professor Gates, who in 1952 achieved the first synthesis of morphine, has been working on this specific series of compounds for over five years. Although Professor Gates cautioned that much additional testing of the new compounds must be done before their

effectiveness is fully determined, he acknowledged that "the clinical testing that has been done so far is very promising indeed."

The compound which the University of Rochester scientist selected as the most promising for possible clinical use is completely synthetic. Tentatively named "Cyclorphan," it has been tested on animals over the past three years. More recently, it has undergone a limited amount of clinical testing through arrangements made by the National Research Council's Committee on Drug Addiction and Narcotics, of which Professor Gates is a member.

Before "Cyclorphan" can be approved by the Food and Drug Administration, however, it must undergo what Professor Gates described as "exhaustive testing, possibly over two or three years. This would probably include many thousands of clinical tests of its usefulness in all kinds of medical situations, ranging from routine post-operative cases to terminal stages of cancer."

Professor Gates noted that scientists only recently had realized that it might be possible to separate the pain-relieving characteristics of chemical compounds from their addictive characteristics. The compounds synthesized at the University of Rochester are known as "morphine antagonists" — that is, they reverse most of the physiological actions, such as lowered rate of respiration, produced by morphine. It is hoped, therefore, that they will prove to be non-addictive.

Gates warned that the term "morphine antagonist" used to describe the compounds does not indicate that they can aid in curing drug addiction. He explained that the term "simply means that such drugs reverse the physiological actions of morphine. Actually, in clinical use these drugs do not affect the non-addict; however, when administered to morphine addicts, they cause violent withdrawal symptoms. For this reason they are presumed to be non-addictive." He pointed out, however, that even though the compounds are "morphine antagonists," it is theoretically possible that they might cause another type of physical dependence. "Only by exhaustive testing will we be able to determine whether they are truly non-addictive," he emphasized.

Some licensing arrangements providing for further development of the new compounds have been tentatively concluded through the Research Corporation of New York, a non-profit organization.

Professor Gates has been engaged in research on the development of synthesizing pain-killing, non-addictive drugs since the late 1940's. His work in this field is related to and was stimulated by his research on synthesizing morphine.

NEW METHOD STIMULATES RESISTANCE TO VIRUSES

A radically new technique for protecting living animals against viruses is dependent upon the stimulation of a body substance called **interferon.** The method protected test mice against a dose of influenza virus which was quickly fatal to unprotected animals.

The new approach was described by virologists of Chas. Pfizer & Co., Inc., at the meeting of the Federation of American Societies for Experimental Biology in Chicago.

The investigation may open the way for entirely new approaches to the prevention of disease which until now has relied primarily upon the use of vaccines made from viruses or bacteria.

Interferon is a protein substance apparently made by living cells in response to virus invasion. It is not the same as an antibody, which also develops as a result of infection, although not as rapidly. Interferon, if present in sufficient quantity, may give immediate protection against virus attack.

The line of research followed by the scientists was based on the fact that the infectious part of a virus is its **nucleic acid,** either DNA or RNA, which composes its reproductive mechanism. They then exposed living cells to nucleic acids from a **non-infectious source** — in this case **yeast** — in the hope that the cells would be stimulated to produce interferon as they would by viral nucleic acids.

Laboratory mice were treated with the yeast nucleic acid, which was sprayed or dropped into the nasal passages so as to be brought into contact with the respiratory tissues. After a twenty-four-hour period, the mice were exposed to B influenza virus. A dosage of yeast nucleic acid well below the

toxicity level completely protected the mice against a concentration of virus which uniformly killed untreated animals.

Contact of the nucleic acid with lung tissue appears to be essential, as injecting the nucleic acids had no effect. Approximately twenty to twenty-four hours were required for the appearance of protective effects. The protection lasts for a week or longer, diminishing gradually.

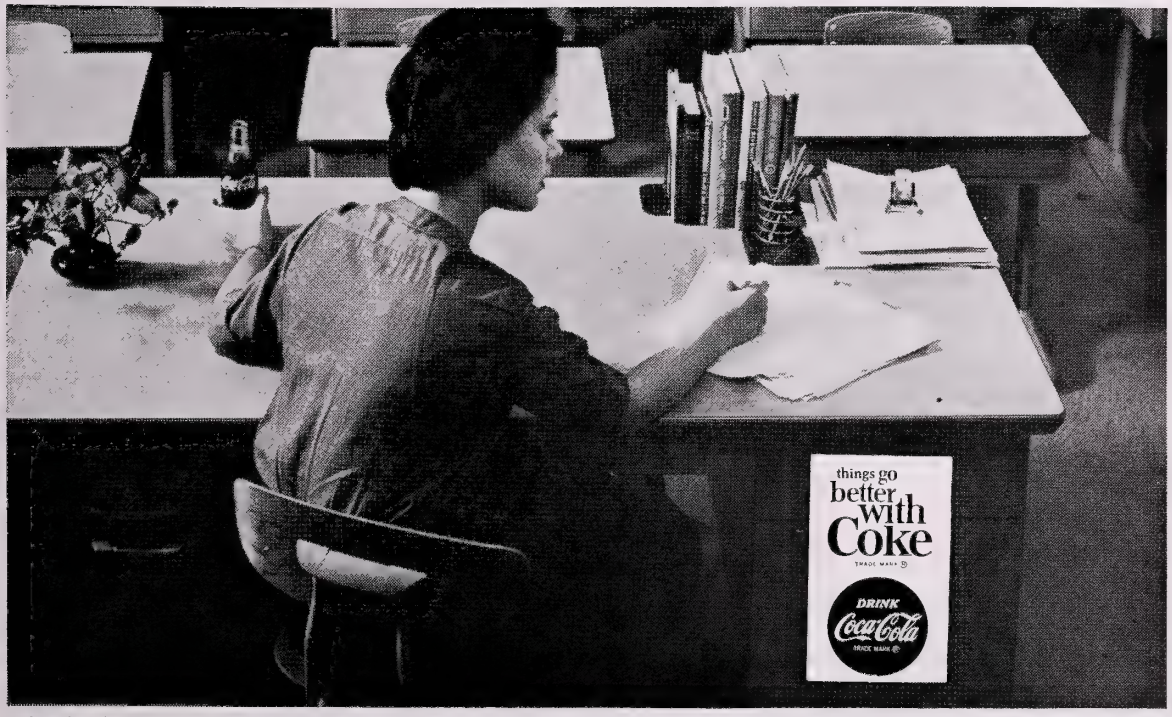
Administration of live viruses will also stimulate interferon production but a surprising result of this investigation was the finding that nucleic acids produced more potent lung interferons than live viruses, probably because of the cell destruction caused by the virus.

It was pointed out that it cannot yet be established that the interferon or interferon-like substances resulting from exposure to nucleic acids are solely responsible for the increased resistance to infection. Nucleic acids are rapidly taken up by cells and there may be some kind of competition between them and the viral nucleic acids which tends to reduce the concentration of viruses found in the lungs. It is also suggested that another mechanism may be involved, that cell permeability may be affected by exposure to nucleic acids.

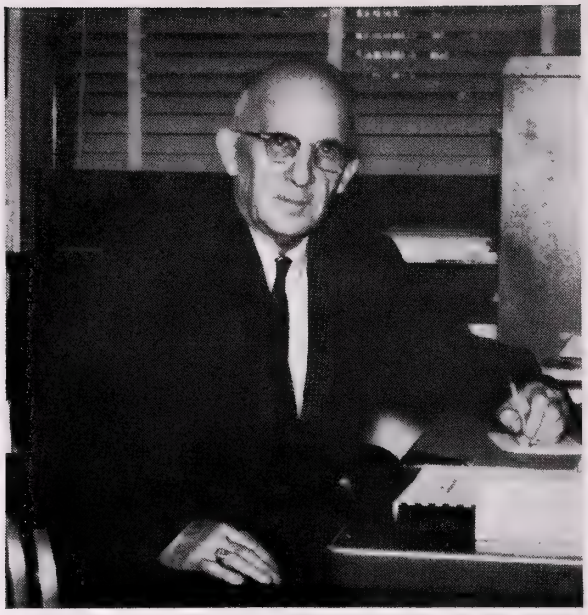
As early as 1961, Pfizer virologists were investigating methods of producing interferon and its ability to modify the course of influenza in mice. It was found that chick embryo tissues, exposed to nucleic acids derived from yeast, bacteria, or calf thymus, would yield interferon or an interferon-like substance. This substance was effective against the virus of influenza, an RNA virus, and also against vaccinia, a DNA virus.

Subsequently, it was observed that interferon produced outside the body and administered to mice would increase their resistance to influenza.

The next step was an intriguing one. Could the living mouse itself be exposed to foreign nucleic acid, and would its respiratory tissues then produce their own interferon to protect it from virus infection? The present investigation appears to prove that this is the case.



Whether you're a teacher correcting exams. A student cramming for them. A housewife cleaning up after the kids. Or a businessman working late at night. Whoever you are, things go better when you pause and refresh with ice-cold Coca-Cola.



Floyd J. LeBlanc

AS TIME PASSES —

On occasion, time may appear to move like the slow, plodding movements of the turtle, and then again it may sweep by, almost unnoticed, as if it were a bat flying in the night. How rapidly time appears to move usually depends upon how much enjoyment, how much satisfaction, and how much interest we take in our everyday activities of work and play. For Floyd J. LeBlanc, dean of pharmacy at South Dakota State College, we suspect that time has passed much too quickly.

Dean LeBlanc has always shown intensive interest in pharmaceutical education and administration. He has built up and maintained a faculty and educational facilities of which to be proud.

One of Dean LeBlanc's outstanding abilities is that he can invariably recall the name of almost any previous student that he has been associated with. This, of course, might be due to a photographic memory, but we think that it is much more than that; the reason being that Dean LeBlanc has taken a great interest in each and every pharmacy student at South Dakota State College. Uppermost in his mind has been the desire that pharmacy students at South Dakota State College receive an education second to none. This has always been apparent to those who have had the privilege of associating with him.

Dean LeBlanc will be retiring as dean of pharmacy as of July 1, this year. He has occupied that office for almost a quarter of a century. After July 1, he will still hold the position of professor of pharmaceutical chemistry and will remain active in an instructional capacity.

When one leaves a theater, he invariably is possessed by a happy or sad feeling. This is exemplified by the frequently displayed emblem of the theater — the two faces of a clown, one happy and one sad. In reality, this is the type of mixed emotion that befalls us when an individual retires from a position in which he has served his fellow man and his environment long and well.

— And so, with a touch of sadness in our heart and yet with a smile on our face, we say to Floyd J. LeBlanc, dean of pharmacy, "Thank you, for a job well done."



DIRECTOR OF HOSPITAL PHARMACY AT UNIVERSITY OF IOWA SPEAKS TO PHARMICS

Mr. William Tester, director of hospital pharmacy at the University of Iowa, Iowa City, presented a talk open to all pharmacy students at the April meeting of the APhA Student Chapter at South Dakota State College. Mr. Tester's interesting talk pointed out the possibility of increased mechanization in the dispensing of hospital prescriptions. The talk was supplemented with slides showing facts and figures relative to hospital pharmacy trends. Mr. Tester also accentuated the idea that the pharmacist should concentrate on being a "prescription advisor" to the physician.

Mr. Tester met with the fourth-year pharmacy class the following day and spoke on the opportunities in hospital pharmacy. Many questions were asked by the students.

An informal luncheon was given by Dean LeBlanc for Mr. Tester and the pharmacy faculty members in the Crest Room at the student union. Mr. Tester's visit proved to be informative to the faculty as well as to the students.

Mr. Tester's visit was a part of the "Visiting Professor" program sponsored by the American Association of Colleges of Pharmacy through a grant from the National Science Foundation.

STUDENT BRANCH APhA OFFICERS FOR 1964-65

Rodney Parry, Canistota, was elected president of the APhA Student Branch at South Dakota State College at the April meeting. The other newly elected officers are: **James Stephens,** Webster - vice president; **Ruth Hendricksen,** Lakefield, Minnesota - secretary; **Nick Marchiando,** Spearfish - treasurer; and **Gary Omodt** - faculty advisor.

The outgoing officers are to be congratulated on having presented some very interesting and stimulating programs throughout the past year.

PHARMACY WIVES PARTY

A Pharmacy Wives banquet and party was held April 12 at the Town House in Brookings. The banquet was attended by the married pharmacy students and their spouses along with the pharmacy faculty members and their wives. After the banquet, door prizes were awarded and dancing followed.

DEAN LeBLANC HONORED

A $500 check was presented to South Dakota State College by **Osco Drug, Inc.,** Melrose Park, Illinois. It was designated by Osco Drug that **Floyd J. LeBlanc,** dean of pharmacy, should have full discretion to designate how this money shall be used by the college. The check was presented by **John P. Street,** director of professional services and vice president of Osco Drug. Mr. Street honored the dean with the following statement, "To those of us who have had association with you in

the educational and business field, and to those who have had you as counselor and friend, you shall always be remembered for the guidance and leadership you have provided in pharmaceutical education."

Dean LeBlanc also received an attractive desk set from Osco Drug in appreciation of his service.

"SYMBOLS OF LIFE" AVAILABLE FROM APhA

The American Pharmaceutical Association has announced the availability of a new eight-page booklet on medical alerting and information devices. Twenty-one different medical alerting and information systems are described or pictured in the compilation. The Association stated that while there may be other suppliers of such devices, those included in the booklet are the only ones known at time of publication.

It has been estimated that there are 40 million persons in the United States who suffer from conditions which require identification for proper first aid. The American Pharmaceutical Association produced this booklet as a guide for those persons who require identification of a medical problem in the event of an accident.

Copies are available at $7.50 per 100 from the Communications Division, American Pharmaceutical Association, 2215 Constitution Avenue, N. W., Washington, D. C. 20037.

PHARMACY PROFESSOR RECEIVES GRANT

Dr. Gerald Bruno, assistant professor of pharmaceutical chemistry, received a grant of $11,960 from the Atomic Energy Commission for the purchase of equipment for the bionucleonics laboratories at the Division of Pharmacy, South Dakota State College. The money will be used to add relatively expensive pieces of equipment to the already well-equipped laboratories.

KAPPA EPSILON PROVINCE CONVENTION

The Province "E" convention of Kappa Epsilon, women's professional pharmacy fraternity, was held in Fargo, North Dakota on May 2-3. The province is made up of chapters in Montana, North and South Dakota, and Minnesota. Delegates from Chi Chapter, South Dakota State College, were: **Shirley Roso,** Watertown; **LaDonna Gross,** Carpenter; **Ann Fellows,** Sioux Falls; and **Ruth Hendricksen,** Lakefield, Minnesota. They are all students in the Division of Pharmacy. Also attending were **Lola Schuman,** KE alumnus member from Stratford and research technician at the college, and **Mrs. Kenneth Redman** and **Mrs. Gary Omodt,** chapter advisors.

Miss Judy Ozbun, Iota Chapter advisor and pharmacy professor at North Dakota University, was elected province co-ordinator. The next province convention will be held in 1966 at South Dakota State University, Brookings, South Dakota.

PHARMICS WIN RESEARCH AWARD

Dennis Hins, Wessington, and **Loren Schweigert,** Gregory, won second place award of $50 in the South Dakota State College Undergraduate Research Contest sponsored by Board of Control. The two students are fourth-year pharmacy students at the college. Their research paper was related to the synthesis of special compounds as anti-cancer agents.

Judges for the contest were **Emil Hargett,** associate professor of civil engineering; **Robert Pengra,** associate professor of bacteriology; and **Paul Williams,** assistant professor of education and psychology.

Douglas Kapaun, Sioux Falls, fourth-year pharmacy student, was contest chairman and **Gary Omodt,** associate professor of pharmaceutical chemistry, was contest advisor.

PROFESSIONAL PLACEMENT SERVICE TO BE FEATURED AT APhA "WORLD'S FAIR" MEETING

A Professional Placement Service will be available to pharmacists and employers during the APhA Annual Meeting. Experienced placement counselors from the United States Employment Service and its affiliated state agencies will operate the APhA Placement Center at the New York Hilton Hotel the week of August 2-7, 1964.

PHARMACY STAFF MEMBERS ADDRESS DENTAL GROUP

Harold S. Bailey, dean of academic affairs and professor of pharmaceutical chemistry, and **Gerald A. Bruno,** assistant professor of pharmaceutical chemistry, both from South Dakota State College, addressed the May 5th dinner meeting of the Watertown Section of the South Dakota Dental Association. The address centered around dental-pharmacy research being carried out at the college. The research is related to experimental dental caries in the rat and the effects of various drugs on caries production and development.

FALSE REPORTS

The Food and Drug Administration, Department of Health, Education, and Welfare, will recommend to the Department of Justice vigorous action against anyone who falsifies research for presentation to the Agency, said FDA Commissioner **George P. Larrick.** "While scientists in general have the highest integrity and the falsification of research data is the rare exception, this Agency views such falsification when it does occur as a menace to the public health," Mr. Larrick said. "The safety of both foods and drugs can depend on the reliability of research data required under provisions of the Food, Drug, and Cosmetic Act. Sound, scientific research data is basic for effective operation of the law," the commissioner said.

The statement was made after **Bennett A. Robin,** M.D., Silver Spring, Md., pleaded "no contest" May 4, 1964, to five counts of an indictment charging him with willfully causing the submission to the government of false, fraudulent, and fictitious reports of clinical studies to support new drug applications for five new drugs.

The drugs involved as charged in the indictment are:

—Tigan Hydrochloride, used to prevent nausea, manufactured by Hoffman-La Roche, Inc., Nutley, N. J.;

—Entoquel with Neomycin Syrup, used against diarrhea, manufactured by White Laboratories, Inc., Kenilworth, N. J.;

—Rynadyne, a cold medicine, made by Irwin, Neissler and Co., Decatur, Ill.;

—Naquival, also known as CMR-807, a diuretic, made by the Schering Corp., Bloomfield, N. J.; and

—Linodil, also known as WIN-9154, used in treatment of circulatory diseases, made by Winthrop Laboratories, New York City.

Two of the drugs (Rynadyne and Linodil) were not approved by FDA. Two (Tigan Hydrochloride and Naquival) were approved on the basis of clinical work done by other investigators and one (Entoquel with Neomycin Syrup) was withdrawn from the market after initial approval.

Commissioner Larrick said the government was prepared to prove before the "no contest" plea was entered that Dr. Robin had completely fabricated names or initials of patients, symptoms, times of administration, doses, and responses of imaginary patients to the drugs. Dr. Robin then submitted these false reports to drug firms as evidence of clinical investigations for which he was paid large sums of money. The companies in turn submitted the reports to FDA as evidence of safety and benefits of the drugs.

CHEMICAL SOCIETY INITIATION

Tau Lambda Upsilon, honorary chemical society at South Dakota State College, initiated new members May 7. Among the new initiates were **Richard Haveman,** Chamberlain; **William Isaksen,** Springfield, Minnesota; and **Norman Muilenburg,** Edgerton, Minnesota. The three new members are third-year pharmacy students at the college. Membership in Tau Lambda Upsilon requires high scholarship in courses relating to chemistry.

Preceding initiation, a technical talk, illustrated with slides, was presented by **Howard Coker,** assistant professor of chemistry at the University of South Dakota.

After initiation, a business meeting was held with election of officers. Elected to office were: Richard Haveman, vice president; and Norman Muilenberg, secretary-treasurer. **Ivan Palmer,** assistant professor of biochemistry, was elected faculty advisor.

ERA TO CLOSE AS VETERAN SDS PHARMACY STAFF MEMBERS 'STEP DOWN'

Nearly 60 years of public service and teaching — dating to the era of the old-fashioned drugstore and its heavy aroma of herbs — will be coming to a close at South Dakota State College this summer.

Floyd J. LeBlanc will be stepping down as dean of the Division of Pharmacy after 24 years, and **Clark T. Eidsmoe** will be retiring after 35 years on State's staff.

LeBlanc will remain as a professor after he turns over his administrative duties to **Guilford C. Gross,** present head of the Pharmacology Department. Gross will be but the third dean of the 41-year-old Division of Pharmacy at State.

LeBlanc, who earned his pharmacy degree at State in 1922, has been associated with the Division of Pharmacy longer than any other person in its history and has held the deanship longer than any other present dean at State. He has been at State continuously since enrolling as a student in 1920 — except for a year's leave to work on his doctorate degree at Purdue University and for summer work.

His interest in pharmacy was sparked by five years' experience in retail pharmacy at St. Cloud, Minnesota, and by 18 months' service in the army medical corps during World War I.

LeBlanc became a registered pharmacist in South Dakota and Minnesota in 1922, placing second in the test among South Dakota students and first in the Minnesota class. He won the **Lehn-Fink** award for the advancement of pharmaceutical science in 1924.

Becoming a graduate assistant at State in 1922, he was named an instructor after he earned the bachelor of science degree in 1924. He received his master's degree from State in 1927 and earned his doctorate from Purdue in 1938.

LeBlanc became dean of the Division of Pharmacy in 1940 — and had problems immediately.

World War II cut the division's enrollment to an all-time low of 28 students, most of them women and young men classified as 4-F by the military. The staff also had to be reduced, LeBlanc recalls, although almost as many classes were taught, usually with four to six students per class.

Record enrollment for the division, incidentally, was 257 in 1956.

It was in 1940 also that Eidsmoe, a native of Beresford, was promoted to the rank of full professor and head of the Department of Pharmacy. He had returned to State after a 14-year absence during which he worked in and owned retail drugstores as well as having served in the infantry during World War I. Eidsmoe earned the bachelor of science degree in 1929 and his master's in 1931.

Both LeBlanc and Eidsmoe are members of the South Dakota Pharmaceutical Association, the American Pharmaceutical Association, and Rho Chi, national honorary pharmaceutical society. Eidsmoe is a former national secretary-treasurer of the American Association of Colleges of Pharmacy.

Both can tell you of the vast changes they have witnessed in the Division of Pharmacy — physical facilities bursting at the seams being not the least of these.

Occupying a few rooms and laboratories on the Administration Building's first floor in 1920, the division now fills the floor and next fall will occupy the top floor of Shepard Hall, new science building under construction at State. It will have additional library facilities in the science hall as well as retaining part of the present classroom and lab facilities in the Administration Building.

Curriculum changes of course, have been radical.

In 1920, the pharmacy student could earn two-, three-, or four-year undergraduate degrees at State. Today's student receives the bachelor of science degree after a five-year program of study that combines a liberal arts background with the physical sciences.

Enrollment has continued to press demands upon staff — the two staff members of 1920 having 70 to 75 students while the nine faculty members of today have more than 200. An enrollment of 275 is predicted for 1964-65, when five classes will be represented for the first time.

It is this type of growth, however, that makes it possible for LeBlanc to point out that more than 80 per

cent of the 650 registered pharmacists in South Dakota today have graduated from State — and he makes an "educated guess" that a State graduate owns or works in almost every retail drugstore in South Dakota.

Neither LeBlanc nor Eidsmoe has a ready count at his fingertips, but both can say they have seen — and guided — a goodly percentage of the nearly 1,400 students graduated from the division since its first official class.

MANAGEMENT SHOULD PAY FOR A PHARMACIST'S CONTINUING EDUCATION

Before a pharmacist accepts employment today, he should be sure that management will encourage and pay for his attendance at continuing education seminars.

That was one of the professional self-improvement points made by APhA Executive Director **William S. Apple** at a special student-body assembly April 2, at the Philadelphia College of Pharmacy and Science.

Citing the increasingly complex nature of pharmacy practice, Dr. Apple told the 400 member audience gathered for the dedication of P.C.P. & S.'s model pharmacy that "it would seem to me that before a pharmacist accepts employment today he should be assured that his management is going to guarantee him opportunity to maintain his professional proficiency.

"Individually, all of us have a responsibility to spend personal time on this educational task. The time has come, however, when employers must contribute their share.

"We are well past the day when employers can decry the threat of organized labor enrolling pharmacists while the same employers refuse to encourage and pay for the pharmacists in their employ to attend . . . post graduate refresher seminars . . ."

Referring to his recent Congressional testimony that America's 100,000 active pharmacy practitioners represent an "underdeveloped source of information about adverse drug reactions," Dr. Apple noted that many of pharmacy's legislative proposals have been based on the "premise that the profession has developed a new, increased capacity to serve and protect the public health."

He warned, however, that "If we don't make good on these promises, by performance, not even a score of lobbyists . . . will be able to get us a sympathetic hearing on legislative proposals."

In discussing the appearance of the community pharmacies, Dr. Apple declared they should be "clean, uncluttered, attractive in appearance, and have a professional atmosphere. Too many American drugstores are an unimpressive, unimaginative, cluttered collection of diverse merchandise," he said.

Turning to the students' opportunities for starting practices of pharmacy for $10,000 or less after graduation, Dr. Apple declared that "despite the restrictive conditions in life today, there is still plenty of opportunity for young pharmacists who have imagination, self-confidence, and a desire to practice their profession on a full-time basis.

"I firmly believe that a practice of pharmacy . . . can be established and can be successful almost anywhere in this country today," he added.

FACTS AND FIGURES FOR PHARMACISTS

A wide array of facts and figures on the prescription drug industry is contained in a new, updated edition of "Key Facts," published by the **Pharmaceutical Manufacturers Association.**

Introduced by PMA last year as the industry's basic information pamphlet, it contains nine up-to-date charts which underscore trends in the conquest of disease and the industry's contributions to the health team.

To facilitate its use as a handy reference source for speakers, writers, government officials, and others concerned with the industry, the facts are categorized under five headings: prices, competition, safety, research, and accomplishments.

The PMA public information office is distributing copies of the three-color pamphlet extensively throughout the industry and also to science writers, medical and pharmacy schools, and other important audiences.

Copies are available on request from: **Public Information Office, Pharmaceutical Manufacturers Association, 1411 K Street, N.W., Washington, D. C., 20005.**



RHO CHI INITIATION AND BANQUET

Tau Chapter of Rho Chi, national honorary pharmacy society, held initiation for new members May 4 in the Campus Room at the student union at South Dakota State College. The students initiated were: **Garrett Gross,** Britton; **Douglas Kapaun,** Sioux Falls; **Rodney Parry,** Canistota; **Marvin Schmidt,** Blakeley, Minn.; **Robert Schnell,** Sturgis; and **Loren Schweigert,** Gregory. The students are all fourth-year pharmacy students. **Lola Schuman,** Stratford, was also initiated into the society. Miss Schuman holds the position of research technician at the Division of Pharmacy.

Membership in Rho Chi is primarily dependent upon scholarship but character and personality are also considered.

After initiation, election of new officers was held, the following being elected to office: Robert Schnell, president; Loren Schweigert, vice president; Douglas Kapaun, secretary-treasurer; and Marvin Schmidt, historian. **Robert Knott,** associate professor of pharmacy, was elected faculty advisor.

Following a short business meeting, a banquet was held in the Crest Room. After the banquet, **Gary Omodt,** associate professor of pharmaceutical chemistry and outgoing faculty advisor, presented a talk on "Education."



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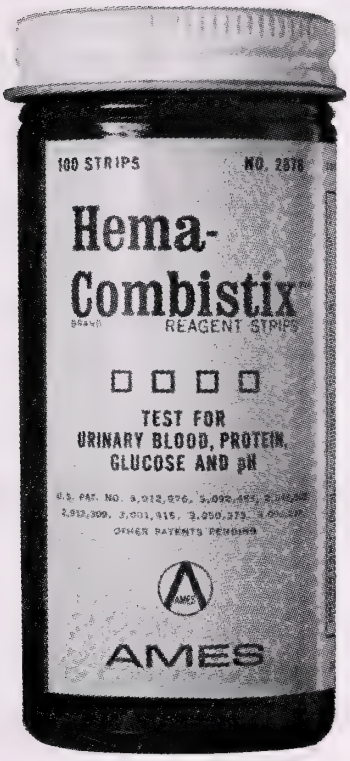
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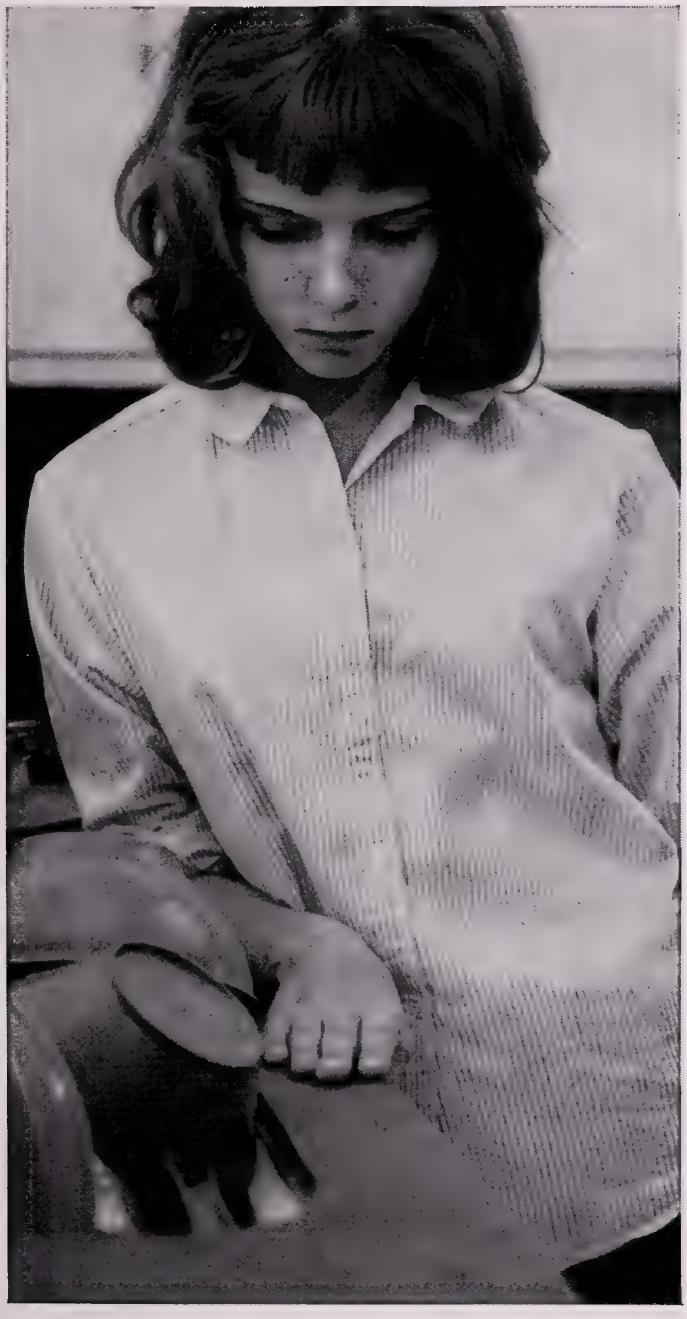
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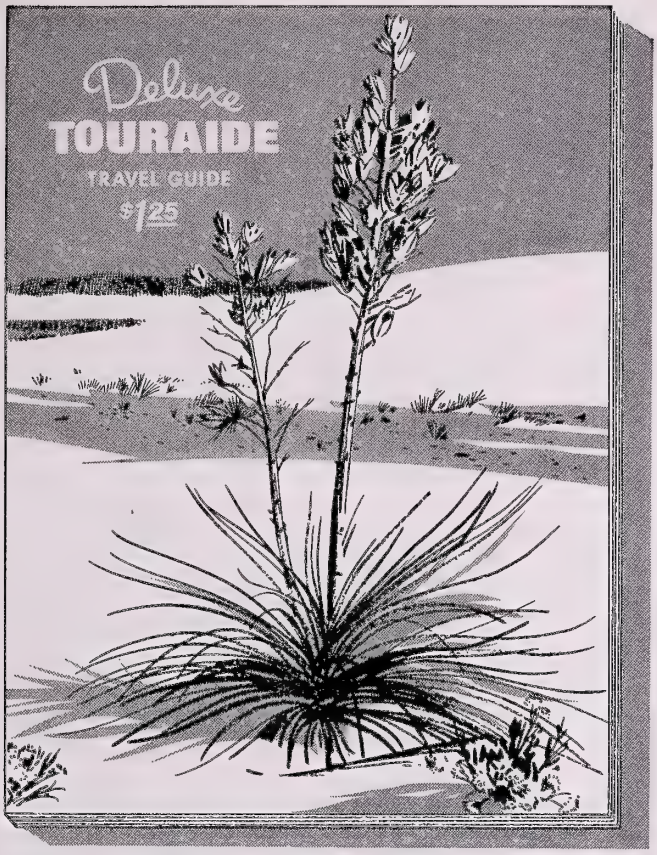
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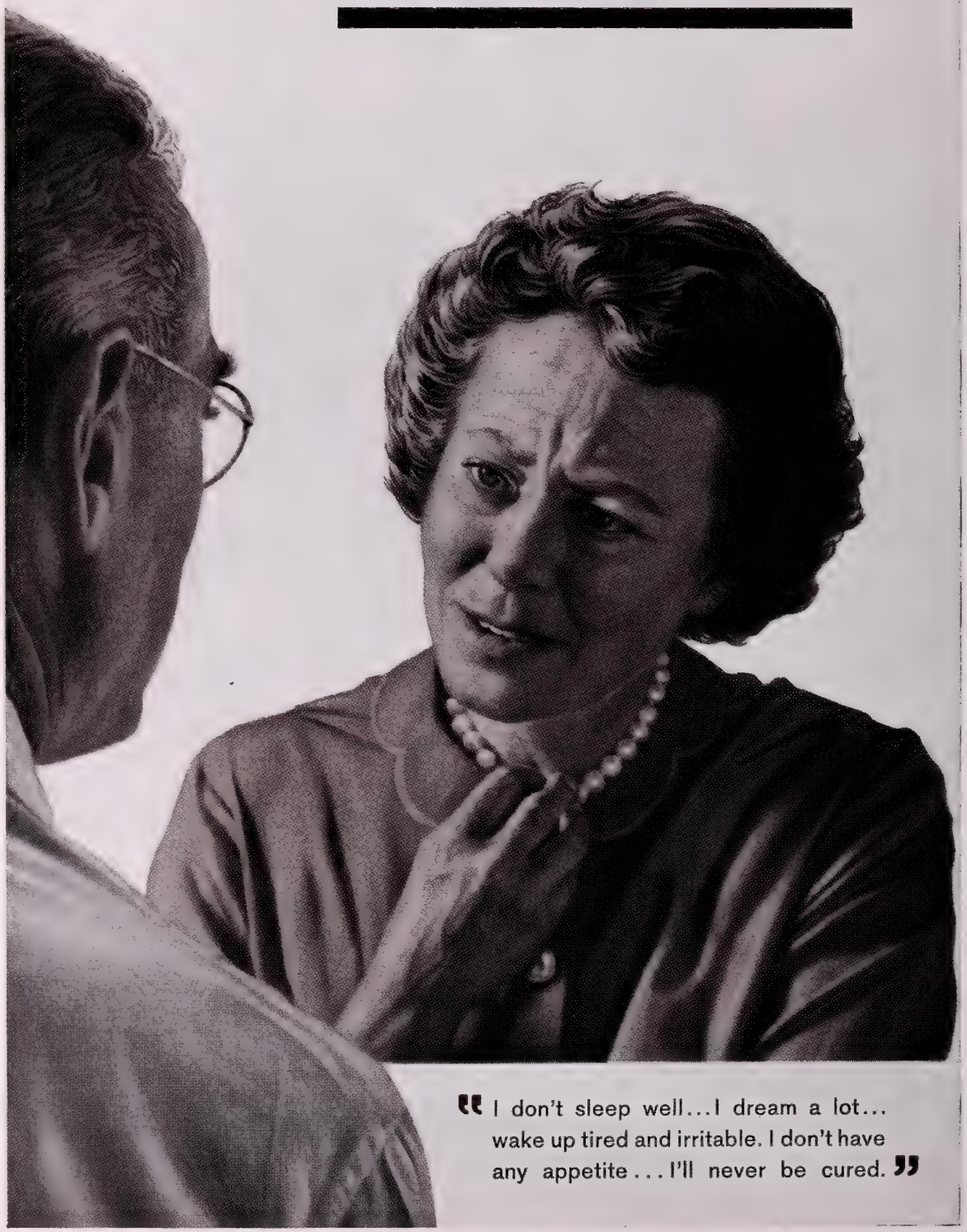
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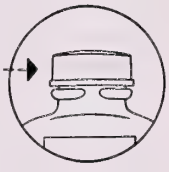
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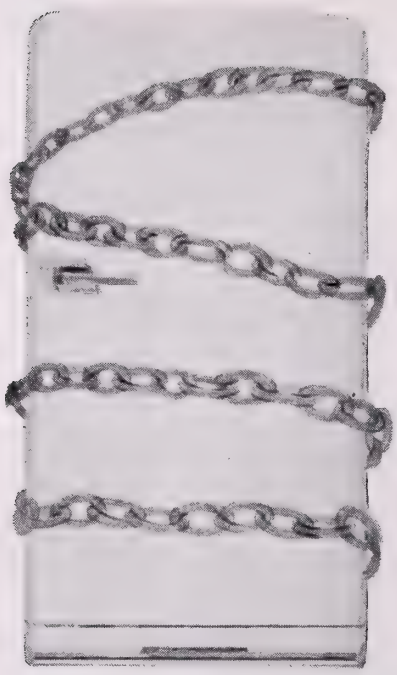


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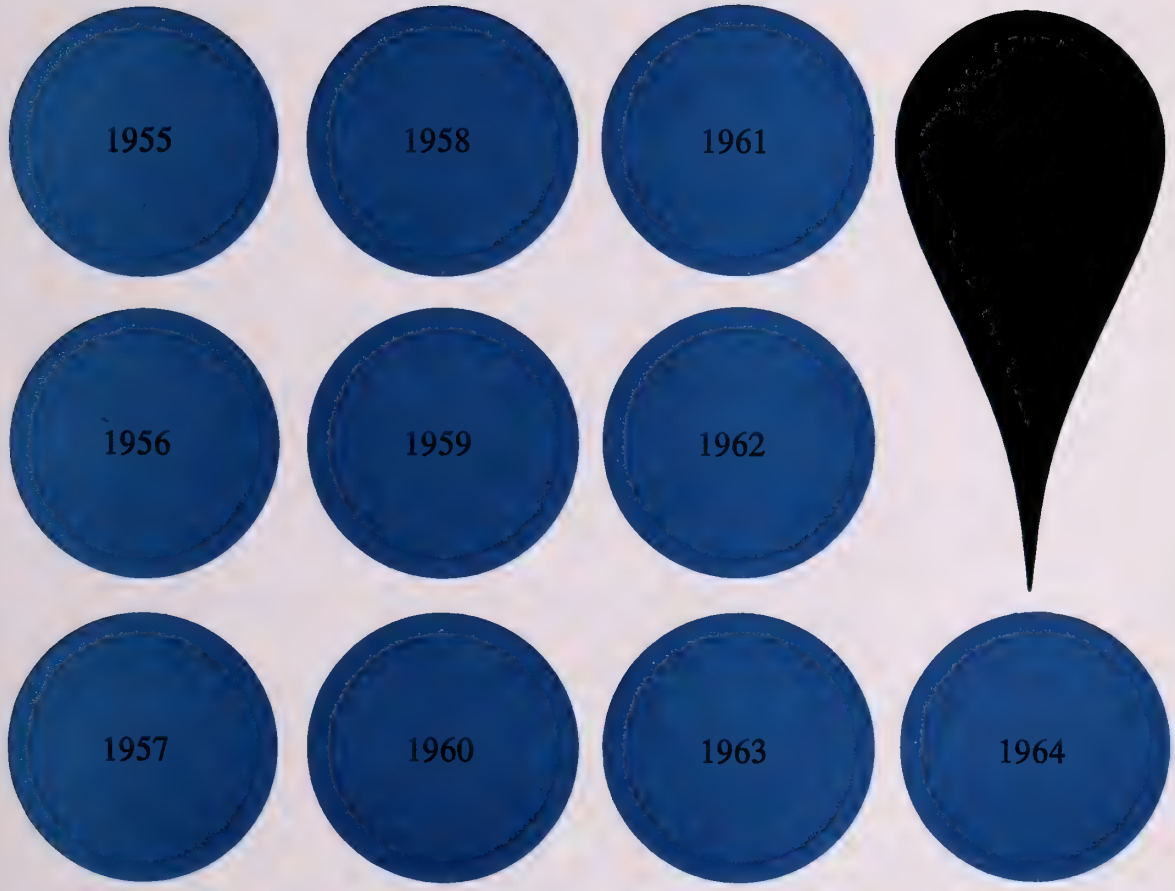
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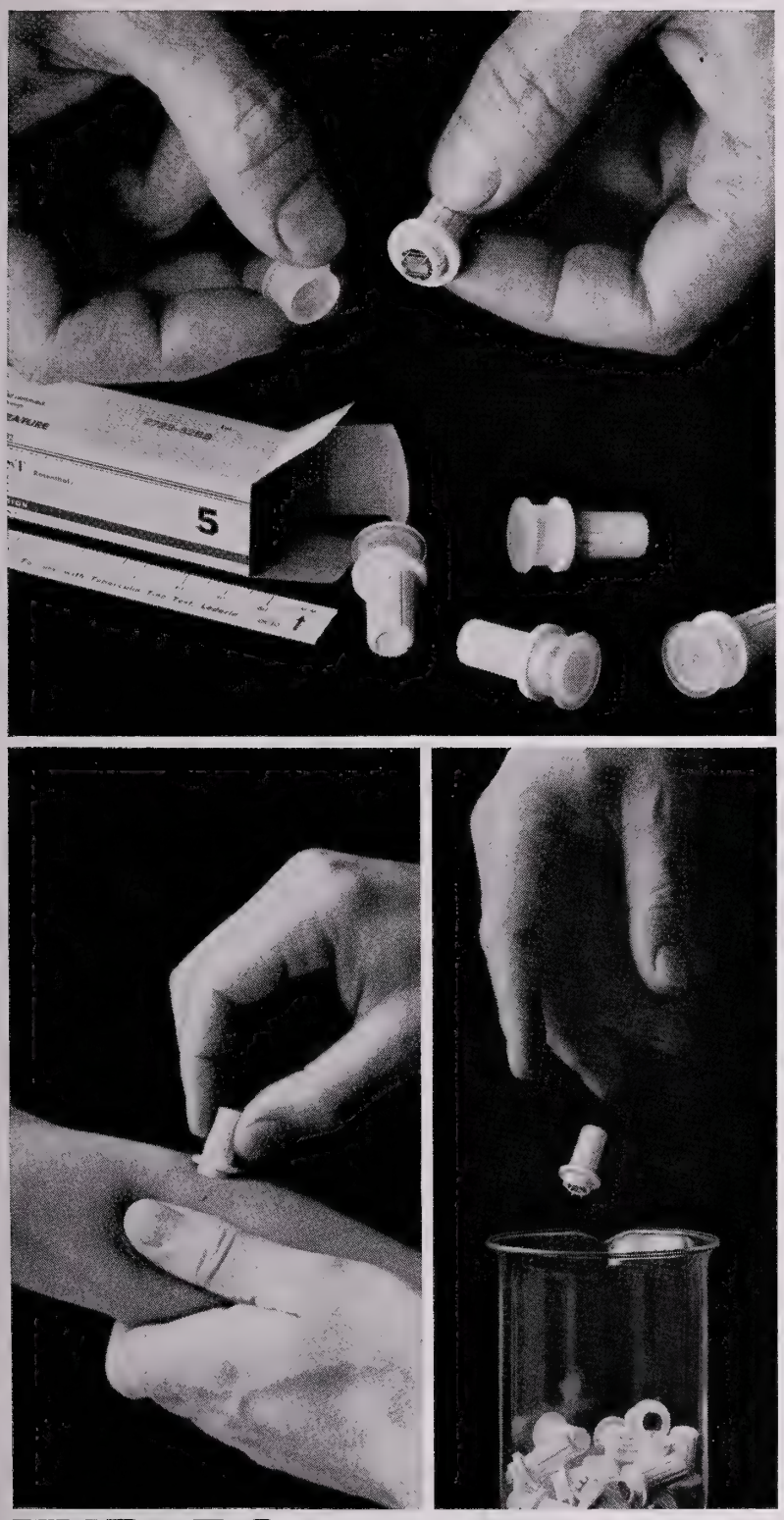
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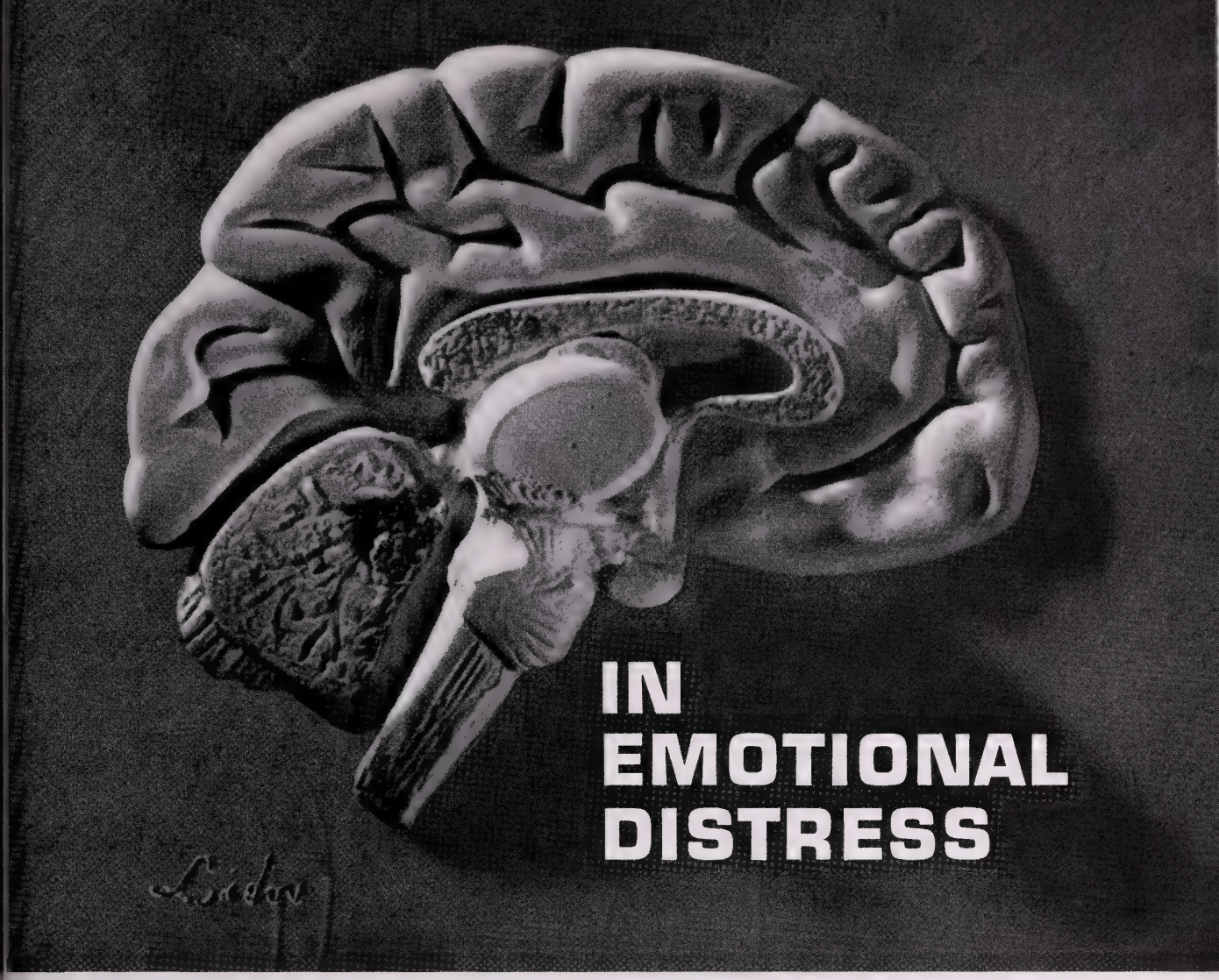
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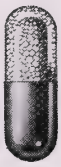


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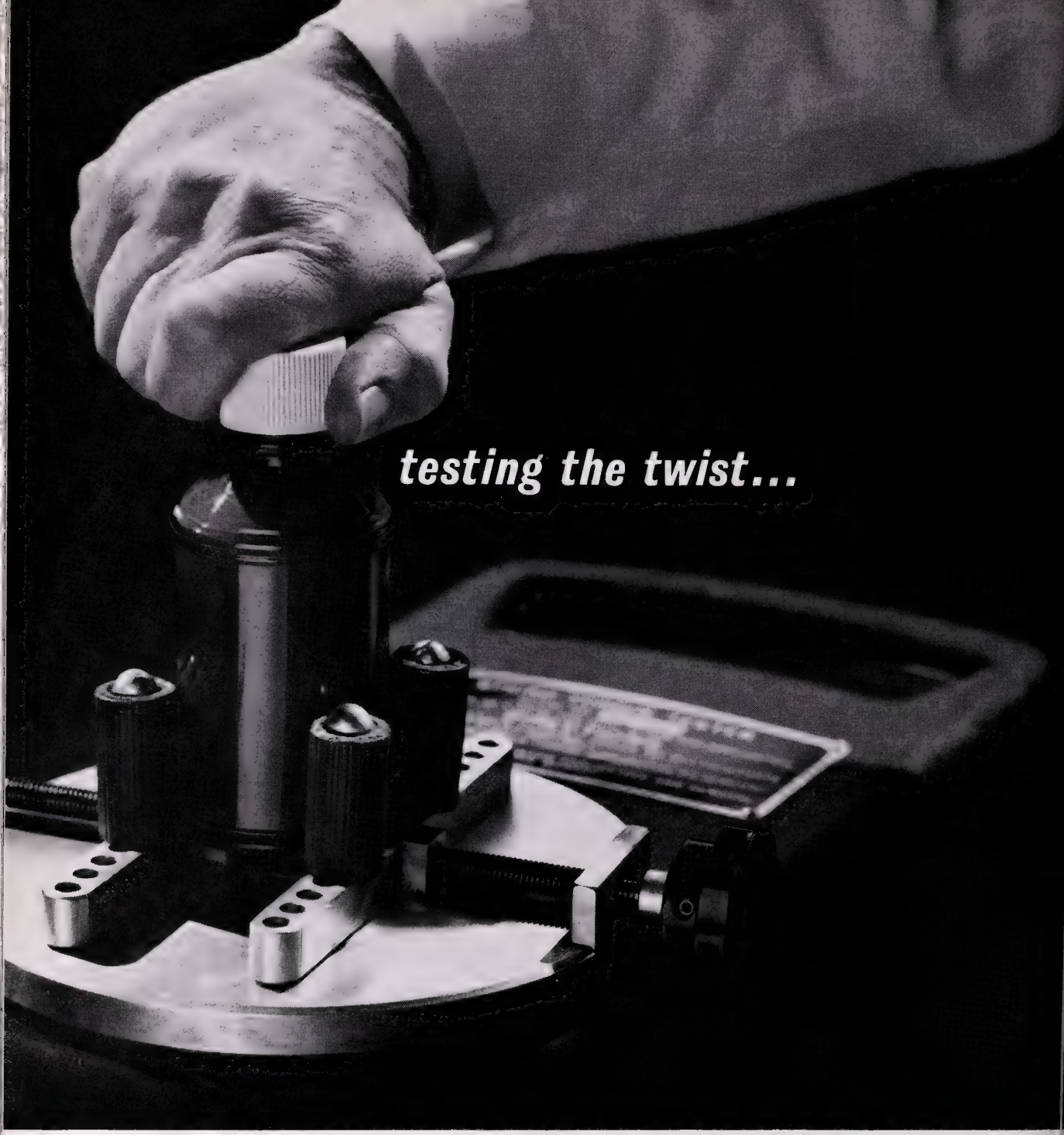
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Synchronized Counter-Shock Treatment of Atrial Fibrillation*

A Report of Twelve Cases

Warren L. Jones, M.D., R. J. Ogborn, M.D.**, Richard Gunnarson, M.D.†, W. Allen Hill, M.D.†, Denny G. Ortmeier, M.D.†, Paul D. Rud, M.D.†**
Sioux Falls, S. D.

*Presented before the Sioux Valley Medical Association meeting on February 20, 1964.
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Recently, much interest has been generated by the development of a new method for terminating cardiac arrhythmias. The method, termed "cardioversion" by Lown,[3] employs the use of a direct current shock to accomplish complete and instantaneous depolarization of the myocardium, thereby depressing ectopic foci and allowing the sinus node to resume normal function as the cardiac pacemaker.

Historically, adequate means for treating ectopic cardiac arrhythmias have usually been elusive and often entirely lacking. For many years treatment has generally been confined to the use of vagal stimulation or to the use of such drugs as Quinidine, Digitalis, or Procainamide. Although the use of these drugs has been commonly accepted as treatment of choice in these cases, the consistency of effect of each drug is not entirely predictable. In many cases, even after time consuming administration of the drugs to toxic levels, the arrhythmias have persisted. The resultant impairment in cardiac performance and secondary symptomatology are well known and often life-threatening. In the past few years, external alternating-current counter-shock was reported,[1, 2] in its use attempting to correct ventricular tachycardia and certain atrial arrhythmias. However, it was soon evident that the use of alternating current was often attended by serious complications, particularly ventricular fibrillation and cardiac standstill.

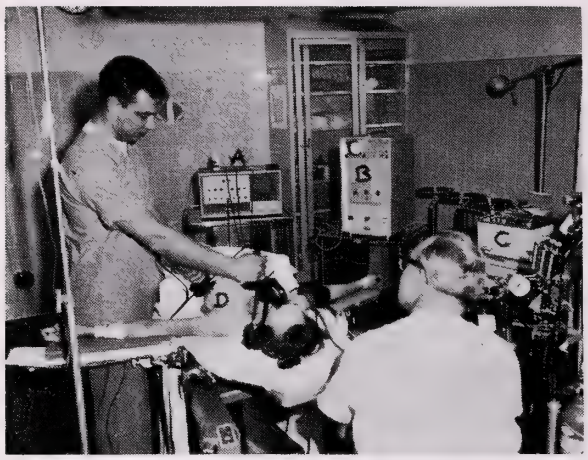


Figure #1. Depicts the operating room setting: (A) is a cardiac monitor-pacemaker, (B) a Corbin-Farnsworth Cardiac Synchronizer, (C) an electrocardiograph and (D) shows the placement of the electrodes on the chest wall.

In 1962, Lown and co-workers[3] reported on the use of a high energy, capacitor stored discharge applied transthoracically for the conversion of ventricular fibrillation, ventricular tachycardia and atrial fibrillation. Since it was discovered that shock-induced ventricular fibrillation occurred only if the discharge was delivered at a point during the cardiac cycle which coincided in time with the apex of the T-wave of the electrocardiogram, the possibility of serious arrhythmias following its use was eliminated by placing the time of shock outside of this "vulnerable period."[3] Twenty-three of 25 episodes of arrhythmias were successfully converted to normal sinus rhythm (NSR) without complication. Since then Lown et al[4] have reported the successful conversion of 45 of 50 patients with atrial fibrillation, and Killip[5] has converted 56 of 62 patients with arrhythmias including atrial tachycardia, atrial flutter, atrial fibrillation, and ventricular tachycardia. In the past year, two manufacturers of electronic equipment have placed devices on the market designed for synchronized D. C. counter-shock treatment of ectopic arrhythmias.*

The present report describes the use of synchronized D. C. counter-shock in the treatment of 12 patients with chronic atrial fibrillation, discussing the problems and complications, and ultimate outcome of these cases.

MATERIALS AND METHODS

The electronic device used for the conversion of arrhythmias consists of a direct current (D. C.) depolarizer which delivers an underdamped discharge measured in watt-seconds and of 2.5 milliseconds duration. An automatic synchronizer was utilized to control the precise time during the cardiac cycle at which the shock was administered and thus avoided shocking the patient during the "vulnerable period" of the ventricle. An oscilloscope provided a continuous picture of lead 2 of the patient's electrocardiogram. Electrocardiographic tracings were routinely obtained before and during the conversion. The discharge, the energy of which could be adjusted from 100 to 400 watt-seconds, was administered by means of two insulated paddles which served as electrodes.

The patients were NPO for a period of at least 8-hours prior to the time of conversion and pre-medication routinely consisted of Quinidine 400 mgm orally, given 2-hours beforehand, and Sodium Seconal 0.1 Gm. administered intra-muscularly 1-hour before the procedure. Anti-coagulant drugs and muscle relaxants were not used. In all cases the procedure was conducted in an operating room with an anesthesiologist in attendance and a cardiac pacemaker available. Figure #1 depicts the operating room setting and some of the necessary equipment. Prior to anesthetization with intravenous Thiopental Sodium, the accuracy and uniformity of the synchronization was ascertained by triggering the synchronizer-delay circuit and thus superimposing a small blip on an ECG tracing where the converting impulse would occur. This is shown in the upper tracing in figure #4. Light anesthetization was then accomplished with Thiopental Sodium in dosage varying from 150 to 500 mgm. The insulated paddles were covered with conductive jelly and one electrode placed in the 5th intercostal space in the mid-axillary line and the other in the 3rd intercostal space just to the right of the sternum — in the V-6 and the V-1 ECG positions, respectively. Applying the electrodes to the chest with approximately 20-pounds of pressure, a discharge

* Available from the American Optical Company as the Lown Cardioverter, or from the Corbin-Farnsworth, Inc., as the Cardiac Synchronizer.

PATIENT AGE	UNDERLYING HEART DISEASE	PRECEDING ARRHYTHMIA	CONVERSION DATE; RESULT	COMPLI-CATIONS	PRESENT STATUS OF PATIENT
#1 Mrs. R R 62 yrs.	Rh. Aortic St. Chr. Cong. HF.	At. Fib. 1 yr.	23 Oct 63=NSR 18 Dec 63=NSR	None	Holding NSR; No Cong. HF. Myocardial weakness & Stokes-Adams syncope
#2 Mr. L A 56 yrs.	Rh. Mitral St. Chr. cong. HF.	At. Fib. 1½ yrs.	9 Nov 63=NSR	Cerebral Embolism 2 Feb 64	Held NSR until 10 Jan 64. Re-operated. Died 4 days post-op.
#3 Mrs. A S 76 yrs.	A.S.H.D. with Chr. cong. HF.	At. Fib. 1 yr.	30 Nov 63=NSR	None	Holding NSR; No Cong. HF. Feeling well.
#4 Mrs. E J 67 yrs.	Rh. Mitral St. and Insuffic. Chr. Cong. HF.	At. Fib. 1 yr.	11 Dec 63=NSR	None	Holding NSR; No Cong. HF. Ambulatory.
#5 Mrs. M O 44 yrs.	Rh. Mitral & Aortic Valves Chr. cong. HF	At. Fib. 10 yrs.	11 Dec 63=AF 18 Dec 63=AF 5 Feb 64=AF	None	Mild symptomatic improvement despite continued AF.
#6 Mrs. G S 53 yrs.	Rh. Mitral St. Chr. cong. HF.	At. Fib. 10 yrs.	11 Dec 63=NSR 18 Dec 63=NSR	None	Holding NSR: No Cong. HF. Few PVC: Ambul.

Figure 2

of 100 watt-seconds was administered. If the arrhythmia failed to convert to NSR within several minutes following the initial shock, the energy setting was increased to 200 and then to 400 watt-seconds successively. The passage of current between the electrodes resulted in minimal and brief contraction of the skeletal muscles in the general field of shock transmission, and was recorded on the ECG tracing as a sudden spike. Hyperactivity of the ventricular muscle which followed discharge upon several occasions was controlled with Procainamide administered slowly intravenously in doses ranging from 200 to 500 mgm. The patient was observed in the O. R. recovery room until fully recovered from the effect of the anesthetic and was then returned to his room. Initially, Quinidine or Procainamide was continued every 4-hours, and then gradually reduced, depending upon the presence and degree of irritability from an ectopic focus.

CASE REPORTS

Case #1. (SVH #348774) Mrs. R. R., 62-years of age, had a history of rheumatic valvular heart disease with predominant aortic stenosis since childhood. She had no symptoms until July 1959, when she developed progressive chronic congestive heart failure despite Digitalis therapy, low sodium diet, and rest. Since October, 1962, the occurrence and persistence of atrial fibrillation added sufficient burden to cause nearly complete disability and a relentless down-hill course. The use of the D. C. counter-shock apparatus on October 23, 1963, was considered a last resort. The rhythm was successfully converted to NSR without complication, and the rhythm was maintained using 200 mgm. Quinidine 4-times daily. Refer to Figure #4 illustrating ECG strips of the conversion. During the ensuing several days a spontaneous diuresis occurred, and all the signs of congestive heart failure cleared. She was discharged to her home on November 5, 1963. The NSR held until November 28, 1963, when atrial fibrillation recurred. Within several days the cardiac decompensation reappeared, and a 10-pound weight gain was recorded. On December 18, 1963, cardioversion was again successfully performed. The resulting NSR has held to date, being maintained on 400 mgm Quinidine 4-times daily. Although myocardial weakness prevails, and episodes of Stokes-Adams syncope have further complicated the course of illness, the congestive heart failure has not recurred.

Case #2. (SVH #352704) Mr. L. A., 56-years old, had rheumatic valvular heart disease with mitral stenosis. In March, 1958, he underwent mitral commissurotomy. Atrial fibrillation which had resisted conversion prior to surgery was then readily converted to NSR using Quinidine. From June, 1958, until May, 1962, the atrial fibrillation recurred several times. Since May, 1962, the atrial fibrillation again resisted conversion despite repeated attempts using Quinidine to toxic levels. Mild congestive heart failure recurred during this period requiring diuretics, in addition to Digitalis, reduced activities, and low sodium diet. Since June, 1963, cardiac decompensation became persistent, and gradually more disabling. On November 11, 1963, the atrial fibrillation was successfully converted to NSR using the D. C. counter-shock method, and Quinidine 400 mgm every 4-hours was used to hold

the normal rhythm. Twenty-four hours after conversion, 3-episodes of syncope occurred in rapid succession, the last accompanied by a focal convulsive seizure. These episodes were interpreted as being probably due to focal cerebral ischemia due to a cerebral arterial embolus and were promptly treated with fibrinolysin. The symptoms abated, and there was no residual neurological deficit found. The NSR was maintained using 400 mgm Quinidine 4-times daily. Congestive heart failure, which had cleared, recurred on minimal physical activity. The patient was readmitted to the University of Minnesota Hospitals on January 1, 1964, for re-evaluation, and again underwent mitral valve surgery on January 24, 1964, and expired on the fourth post-operative day.

Case #3. (SVH #354067) Mrs. A. S., 76-years old, had a history of arteriosclerotic and hypertensive heart disease, of several years duration. The heart had been compensated until the onset of atrial fibrillation in April, 1963. No attempt was made to convert the rhythm then because of the coexisting heart failure. Digitalis controlled the ventricular rate and the heart failure. In August, 1963, mild congestive heart failure recurred, and seemed to progress despite a low sodium diet, reduced activities, and continued Digitalis. On November 30, 1963, the atrial fibrillation was converted to NSR using the D. C. counter-shock apparatus. Ventricular irritability was noted for several minutes following conversion, which was controlled with Procainamide. The normal rhythm was maintained using 200 mgm Quinidine 4-times daily. A mild increase in the congestive heart failure occurred during the first 24-hours following conversion, which responded to an increase in Digitalis dosage. Since then, the heart has been fully compensated, and the patient rehabilitated.

Case #4. (SVH #354656). Mrs. E. J., 67-years old, had rheumatic valvular heart disease with mitral stenosis and insufficiency and arteriosclerotic heart disease. For the past 3-years she had noticed increasing dyspnea, generalized weakness and dependent edema, in spite of Digitalis, low sodium diet, diuretics and rest. The chronic atrial fibrillation compromised the cardiac function and intensified the congestive heart failure. On December 11, 1963, the rhythm was successfully converted to NSR using the D. C. counter-shock apparatus. This rhythm was maintained with 200 mgm of Quinidine 4-times daily, and Digitalis. A reaction to Quinidine occurred, and the maintenance drug was changed to Procainamide 500 mgm 3-times daily. The patient has improved symptomatically, but will need occasional diuretic therapy.

Case #5. (SVH #358287). Mrs. M. O., 44-years old, had rheumatic heart disease, mitral stenosis and insufficiency, aortic insufficiency, and chronic atrial fibrillation for 10-years. There was a history of rheumatic fever at the age of 13-years. Even though the patient had been maintained on Digitalis, Quinidine and diuretics, she noticed increasing tiredness, dyspnea, and dependent edema during the past two years. Heart surgery had been declined because of multiplicity and severity of valvular lesions. Cardioversion was attempted on December 11, and December 18, 1963, and failed. A third attempt on February 5, 1964, also failed to convert the arrhythmia. Considerable ventricular irritability was noted during and following each attempted conversion. Since then the patient has improved, in spite of the continued atrial fibrillation.

Case #6. (SVH #354648). Mrs. G. S., 53-years old, had a past history of chorea and rheumatic fever. In 1954 she underwent a mitral commissurotomy at the University of Minnesota Hospitals. Since then she had persistent atrial fibrillation despite attempts at medicinal conversion. During the past 5-years the patient had noted increasing dyspnea, weakness and dependent edema despite digitalization, diuretics and a low sodium diet. D. C. counter-shock conversion on December 11, 1963, was successful in converting the arrhythmia to NSR, but reverted in 12 hours to atrial fibrillation. On December 18, 1963, another successful D. C. counter-shock conversion was made, and the patient was maintained on Quinidine 200 mgm 4-times daily, and Digitalis. On January 21, 1964, the maintenance drug was changed to Procainamide 250 mgm 4-times daily. During the following 17-days the patient had an attack of acute migratory arthralgia, mild fever and weakness. On February 13, 1964, it was first noted that the NSR had reverted to atrial fibrillation. The patient was re-hospitalized and treated with increased doses of Digitalis and Quinidine. On March 1, 1964, the patient was discharged with NSR, medicinally converted, and has been symptomatically improved.

Case #7. (SVH #356417) Mrs. W. E., 56-years of age, had chronic rheumatic valvular heart disease with mitral stenosis predominating. In November 1962, she underwent a mitral commissurotomy. Since that time she has had an appreciable mitral insufficiency and atrial fibrillation which was resistant to medicinal conversion. Increasing weakness, edema, and dyspnea had been present for the past year, despite digitalization, diuretic therapy and low sodium diet. On January 8, 1964, the arrhythmia was successfully converted to NSR by D. C. counter-shock method. The NSR has been maintained using Procainamide 500 mgm 3-times daily, and Digoxin 0.25 mgm daily has been continued. The patient is symptomatically improved.

Case #8. (SVH #356429). Mrs. J. S., 80-years of age, had arteriosclerotic heart disease, chronic atrial fibrillation and congestive heart failure. The latter persisted in spite of Digitalis, diuretics and a low sodium diet. On January 8, 1964, using the D. C. counter-shock apparatus, the rhythm was converted to NSR successfully, and has been maintained using Quinidine 200 mgm 4-times daily, and Digoxin 0.25 mgm daily. The congestive heart failure is now nicely controlled by conventional therapy.

Case #9. (SVH #356681). Mr. G. J., a 45-year old salesman gave a vague history of cardiac rhythm disturbance present from age 13-years to 34-years, which limited his physical activities mildly; and was associated with spells of rapid heart rate lasting 10-minutes to several hours which were completely disabling. He was rejected from service in the U. S. Armed Forces on the basis of this heart problem. From the age of 34 to 40 years, for no apparent reason he had complete freedom from these symptoms and no physical limitation. Since 40-years of age there had been recurrence of the same cardiac rhythm disturbances which were identified by ECG on February 27, 1963, as atrial flutter-fibrillation, with varying A-V block. In March, 1963, an attempt at conversion of the rhythm with Quinidine and later digitalization both failed and were abandoned. On January 11, 1964, the rhythm was successfully converted to NSR with the D. C. counter-shock apparatus, and has been maintained with Quinidine 200 mgm 4-times daily. There has been complete symptomatic recovery, and no definite underlying heart disease has been found.

Case #10. (SVH #358019). Mrs. L. H., 55-years old, with mitral stenosis due to chronic rheumatic valvular disease developed congestive heart failure in 1960. Ultimately, the symptoms of congestive heart failure no longer were controlled by digitalis, diuretics, low sodium diet, and rest. She required frequent hospitalizations for treatment of the heart failure. On April 10, 1963, she underwent a mitral commissurotomy with some improvement, but

PATIENT AGE	UNDERLYING HEART DISEASE	PRECEDING ARRHYTHMIA	CONVERSION DATE; RESULT	COMPLI-CATIONS	PRESENT STATUS OF PATIENT
#7 Mrs. W E 56 yrs.	Rh. Mitral St. & Insuffic. Chr. Cong. HF.	At. Fib. 14-Mos.	8 Jan 64=NSR	None	Holding NSR; Improved.
#8 Mrs. J S 80 yrs.	A.S.H.D. with Chr. Cong. HF.	At. Fib. 8 yrs.	8 Jan 64=NSR	None	Holding NSR; Good symptomatic improvement.
#9 Mr. G J 45 yrs.	None identified.	At. Flut. Fibrill. 5 yrs.	11 Jan 64=NSR	None	Holding NSR; complete recovery.
#10 Mrs. L H 55 yrs.	Rh Mitral St. Chr. cong. HF.	At. Fib. 2 yrs.+	1 Feb 64=AVNo	Cerebral Embolism	Held A-V Nodal rhythm 15 days, then reverted to AF, then to NSR spontaneously.
#11 Mrs. P B 66 yrs.	A.S.H.D. with Chr. cong. HF.	At. Fib. 7 yrs.	23 Jan 64=AF	None	Improved despite failure of conversion
#12 Mr. J P 38 yrs.	Rh. Mitral Insuffic. & Stenosis	At. Fib. 5 yrs.	19 Feb 64=NSR	None	Holding NSR; and symptomatically improved.

Figure 3

continued to have symptoms of heart failure. Atrial fibrillation had been present since 1961. This appeared to be an ideal case for D. C. counter-shock treatment, and she was so treated on February 1, 1964. NSR was not achieved, but an A-V nodal rhythm, regular at a rate of 52 beats per minute was maintained using Procainamide, and later Quinidine. About 10-minutes after the conversion, while in the O. R. recovery room, she began having generalized tonic seizures, thought to be the result of cerebral embolization. She was immediately begun on fibrinolysin therapy. For the ensuing 10-days she had seizures occurring in decreasing frequency, then ceasing altogether. No definite neurological deficit could be demonstrated, but some CNS loss was suspected. The A-V nodal rhythm held for 15-days, then reverted back to atrial fibrillation for several hours, then spontaneously converted to a regular rhythm, which was shown by ECG to represent an NSR. She was discharged improved, and has held the NSR using Quinidine 400 mgm 4-times daily.

Case #11. (SVH #357385). Mrs. P. B., 66-years old, had arteriosclerotic heart disease and chronic atrial fibrillation for 7-years. Several attempts at medicinal conversion had been made unsuccessfully. Despite maintenance on Digitalis, diuretics, low sodium diet and Quinidine intermittently, the patient had increasing weakness, dyspnea, frequent bouts of congestive heart failure and dependent edema. The patient underwent D. C. counter-shock treatment on January 23, 1964. In spite of failure to convert the rhythm the patient has had less dyspnea, feels stronger, and needs fewer diuretics, and there has been better control with Digoxin 0.25 mgm daily 6-days per week, and Procainamide 250 mgm 4-times daily. The reason for the symptomatic and objective improvement is not known.

Case #12. (SVH #359327) Mr. J. P., 38-years old, had rheumatic heart disease with mitral insufficiency and recurring mitral stenosis. The patient had rheumatic fever in 1936 and in 1945. A mitral commissurotomy was performed in September, 1959. He had intermittent atrial fibrillation since surgery. Since January 1962, the atrial fibrillation had been persistent. The past year increasing fatigability and dyspnea had been noted. Several attempts at medicinal conversion had been unsuccessful. On February 19, 1964, a successful conversion of the arrhythmia to NSR was accomplished using the D. C. counter-shock apparatus. The patient held the NSR using Quinidine 400 mgm 4-times daily, and was continued on Gitaligin 0.15 mgm daily. He is much improved symptomatically.

DISCUSSION

Twelve patients were subjected to 16 procedures; shown graphically in figures #2 and #3. Some of these patients were treated with a single shock, and others received 2 and 3-shocks in any single procedure. Repeated procedures were carried out on 3 patients, successfully in 2, and unsuccessfully in one patient (case #5) after 3 different attempts. Any procedure unsuccessful after 3 graded shocks, from 100 to 400 watt-seconds, was abandoned.

In 9 patients the arrhythmia was converted to NSR successfully. In one (case #10) the atrial fibrillation converted to an A-V nodal rhythm, and 15-days later reverted to atrial fibrillation, then several hours later spon-

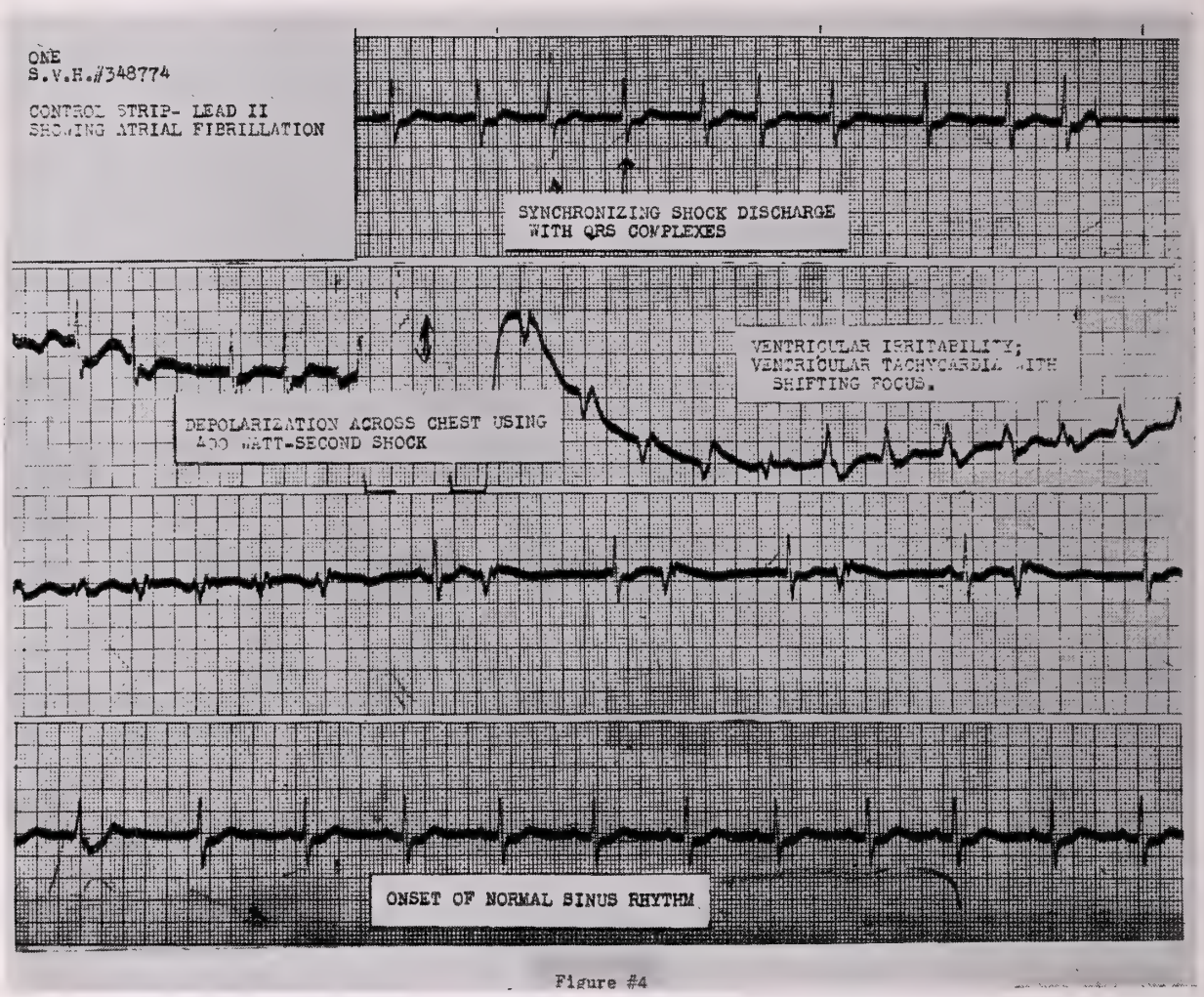


Figure #4

taneously converted to NSR while still on maintenance Quinidine 400 mgm 4-times daily. In 2 patients conversion was unsuccessful and the procedure abandoned.

Ten of these 12 patients were in chronic congestive heart failure in spite of conventional therapeutic measures. Three patients had arteriosclerotic heart disease, one patient had no discernable underlying heart disease, and 8 patients had rheumatic valvular heart disease. Of the latter group, 6 had mitral valvular disease of which 5 were predominantly mitral stenosis; one patient had aortic stenosis, and one patient had combined aortic and mitral valvular disease.

The only complications attributed to the conversion of the heart rhythm, or to the D. C. counter-shock procedure itself, were the apparent cerebral embolizations noted in cases #2 and #10. In case #2 the complication occurred 24-hours after the conversion, while in case #10 the first tonic seizure occurred 10-minutes after the arrhythmia was converted to NSR. In both cases previous mitral commissurotomy had been performed 6-years, and 10 months before, respectively. Both these cases had isolated "tight" mitral stenosis. Both were treated promptly with fibrinolysin in maximum doses. Case #2 cleared promptly, had no further seizures, and no detectible neurological deficits. Case #10 continued to have peculiar generalized tonic seizures with decreasing frequency and duration for 10 days, then ceased. No definite residual neurological deficit could be found.

Failure to maintain a normal heart rhythm following conversion of any arrhythmia may be a problem. In this series of cases the NSR was lost in 2 patients (cases #1 and #6), but later maintained following re-conversion using larger doses of Quinidine, such as 400 mgm 4-times daily, or changing to Procain-

amide. The final maintenance dosage of either drug must be determined by clinical trial and patient tolerance, and will vary from case to case.

D. C. counter-shock conversion was considered for use in one patient, not included in this series, who had developed a ventricular tachycardia while in the acute phase of a myocardial infarction; however, the rhythm spontaneously reverted to NSR following the pre-treatment dose of Quinidine. It is recognized that acute myocardial infarction does not preclude this procedure, and the expediency provided by D. C. counter-shock conversion may be life-saving.

CONCLUSION

One can easily detect the gravity of the cardiovascular disease in most of the case reports in this study. This should, in fact, speak favorably for the counter-shock method, for no deaths from the procedure were encountered and the reasonable success in conversion of the heart rhythm is evident. Attempted conversion of the arrhythmia using conventional medicinal measures in most of the cases studied had previously failed. With greater experience and more liberal case selection for counter-shock treatment the results of the method should improve, and the complications lessen. It is advisable, nevertheless, to use only those cases that fail to convert using medicinal therapy, or those cases presenting an urgent need for conversion, or where adverse reactions to Quinidine or Procainamide have occurred.

Re-conversions may be necessary in some instances. No patient in this series declined re-converson, for the evident subjective benefit derived from the NSR when re-established was notable. There apparently is no limit found, thus far, in the number of conversions that can be attempted in a single patient. Kong and Proudfit[6] report a patient receiving 140 D. C. counter-shocks, and autopsy examination of the cardiac tissue revealed no change either grossly or microscopically.

To convert the arrhythmia is part of the task; to maintain the conversion seems equally important. The patient must be able to tolerate maintenance doses of either Quinidine or Procainamide. The selection of the maintenance drug and its dosage for holding the NSR is not easily accomplished since there is an appreciable variation from patient to patient. Some judgment in estimating the maintenance dosage must be exercised by the clinician who has observed the patient before conversion, noting the patient's drug tolerance, and noting the myocardial irritability encountered during and following the counter-shock conversion.

Judging from the high incidence of arterial embolization in those patients with mitral stenosis in this series, one should exercise caution in selecting patients with this disease for counter-shock treatment unless valvular surgery has been recently performed. Lown and co-workers,[4] advise the use of anticoagulant therapy in all patients with rheumatic valvular disease 3-weeks before and 1-week after conversion of the arrhythmia. Furthermore, in our cases with mitral stenosis, there was a need for larger doses of maintenance drug to hold the NSR, and the likelihood of reversion back to the original arrhythmia was greater.

The physician who undertakes the responsibility of the electric conversion of heart rhythm must have a good working knowledge and experience with cardiac rhythm and conduction disturbances in order to properly deal with the several complications with which he may be suddenly confronted. In an effort to ensure a light anesthesia, open air ways and adequate oxygenation one should employ the services of an expert anesthetist or an anesthesiologist. All pieces of equipment should be tested, and readied for immediate use, before the procedure is begun. We found it "comforting" to have the pacemaker electrodes ready to strap to the patient's chest should cardiac standstill occur. This possible complication has not yet been reported to have occurred. To run an electrocardiogram during and following the conversion procedure, in order to have a permanent record, is of more than just academic value.

Lown's[3] statement of caution before rapidly accepting this method of treatment should be respected. Case selection for the procedure will become clarified by greater experience. Nevertheless, from this small experience, herein reported, the authors are enthused with the efficiency of this procedure and apparatus. There is no question that this

(Cont'd on Page 34)



Infections of the Urinary Tract: Antibacterial Management*

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* Read at the meeting of the Black Hills Medical Society, Rapid City, South Dakota, September 6 and 7, 1963.

Infections of the urinary tract are intrinsically difficult to discuss because of the varied causes, symptoms, and prognosis. As a consequence of this variety, an extensive terminology has developed and one encounters such nosologic entities as septic infarct, perinephritic abscess, ascending versus descending infection and pyelitis versus pyelonephritis. Whatever the name given it, infection is the basic disease and the same infecting organisms are common to the various syndromes. The essential purpose of diagnosis and treatment is eradication of the infection. For present purposes I shall avoid this extensive terminology and instead shall discuss infections of the urinary tract from the point of view of five clinical syndromes.

Clinical Syndromes

Although **asymptomatic bacteriuria** is of increased incidence in certain conditions, it also occurs in persons who appear normal. Persons who have asymptomatic bacteriuria may contribute to the discrepancy between the incidence of clinically recognized infection and the higher incidence found at necropsy. When asymptomatic bacteriuria is detected and eliminated, some cases of renal insufficiency may be avoided.

Acute infections vary greatly in pathogenesis and symptomatology. At one end of the gamut is the simple infection that commonly occurs in young or middle-aged women. Often it is not associated with detectable uropathy and, being intrinsically a self-limited disease, may respond to minimal

therapy. At the other end are acute infections that encompass serious states such as renal abscess, and that may be associated with bacteremia or endocarditis. In the majority of acute infections of the urinary tract, local and constitutional manifestations generally parallel the degree of urinary infection.

Recurrent infection may occur in the absence of underlying uropathy or predisposing disease but such should always be excluded by careful urologic and microbiologic investigation. Recurrent infection can be distinguished from chronic infection in exacerbation, but sometimes this distinction is difficult or impossible.

In **chronic infection,** unlike acute simple and recurrent infections, underlying uropathy often is present. A number of chronic infections are relatively asymptomatic, and some may present as asymptomatic bacteriuria. Onset of chronic infection is insidious in some cases since there is no history of infection at the time of diagnosis. This has raised the question whether acute urinary infection necessarily precedes chronic pyelonephritis.[1] However, the best current approach to the problem seemingly is that the earlier the acute renal infection is eradicated, the better the ultimate prognosis.

Severe infections are those that are characterized by a violent systemic reaction, those that persist after recent surgical correction of underlying uropathy, and those that threaten renal function.

Etiologic Factors

A uropathogenic strain of bacteria is the basic cause of urinary infections. The five most frequently causative strains are: (1) coli-aerogenes organisms, (2) protei, (3) pseudomonades, (4) streptococci, usually enterococci, and (5) staphylococci. Gram-negative bacteria usually cause acute infections; gram-positive bacteria sometimes are isolated in chronic infections. Overall, however, infections usually are due to gram-negative bacilli; of these, Escherichia coli is most frequent. E. coli, Aerobacter, and Proteus organisms appear to cause more than three fourths of all urinary infections. Replacement of pathogens, that is, when one type of bacteria disappears during treatment and is replaced by another, occurs in about 25 per cent of cases; infections are due to multiple organisms in about 10 per cent of cases.

Vesicoureteral reflux on micturition theoretically may abet ascending urinary infection. Such reflux may be a constitutional characteristic in some individuals but appears to be lacking in the majority of normal persons. In theory, acute cystitis may produce temporary ureteral reflux, and repeated infections may produce persistent reflux. If such a hypothesis is correct, recurrent infection could destroy ureterovesical continence and permit consistent hydrostatic reflux of infected urine into the kidneys resulting in chronic pyelonephritis.[2]

Abnormalities in the urinary tract such as urolithiasis, strictures, and tumors may produce stagnation and consequent infection. The probability of prostatism in men more than 50 years old who have urinary infection appears to be high. The external genitalia of men are examined for pin-point meatus and phimosis, whereas women are examined for pelvic relaxation, infiltration of the bladder by carcinoma, and the like. Uropathy susceptible to surgical correction usually occurs in children and in men more than 40 years old. Urinary infections are at least twice as common in pregnant women as they are in nonpregnant ones. Asymptomatic bacteriuria may precede frank symptoms of urinary infection in pregnant women, and a sulfonamide may prevent, at that time, the acute pyelonephritis that has been common in the gravid state.[3]

Certain diseases such as diabetes mellitus predispose to urinary infections.

Urinary infections are three times more common in women than in men. About two thirds of the infections in women occur before they are 40 years old, while two thirds of the infections in men occur after they are 40. Despite the higher clinical incidence and the earlier occurrence in women, the disease may be more lethal in men, since at necropsy it is almost equally common in the two sexes.

Infection follows single catheterization in 2 to 4 per cent of patients and occurs in 98 per cent of those who have indwelling catheters for several days despite administration of drugs such as the sulfonamides. A possible exception to this latter generalization occurs when the catheter is removed within 72 hours.

Attempts at prophylaxis with drugs such as the sulfonamides may eliminate susceptible organisms and increase the chance of superinfection with resistant organisms, which ultimately requires more heroic therapy. In this regard, antibacterial drugs may induce iatrogenic changes in the body flora resulting in urinary infections; for example, penicillin and allied drugs, perhaps given for a respiratory infection, may depress the gram-positive bacteria, and allow overgrowth of gram-negative bacteria in the urinary tract. Conversely, drugs that depress the gram-negative flora, such as the tetracyclines, may allow overgrowth of gram-positive bacteria and result in urinary invasion.

The risk of infection from catheterization varies with the individual situation and the reason for catheterization. There is always the chance that bacteria in the urethra can be pushed into the bladder by the catheter. If there is residual urine or the patient has diabetes, infection is more likely. Regardless of the danger of infection after catheterization, use of the catheter is unavoidable in certain cases, for it will relieve painful distension of the bladder and save some patients from fatal uremia. The problem is not whether the catheter is to be used, but rather how it is to be used efficiently. The implication is obvious, however, that adequate attention should be paid to technic, and that catheterization should be done with discrimination.

Nonspecific antibacterial substances are said to be present in normal urine; disappearance of them or the appearance of urinary substances that encourge bacterial growth are possible etiologic factors.

Trauma to the kidneys, as occurs in victims of automobile accidents, with resultant scarring could enhance the possibility of future infection.

Metastatic involvement of the kidneys by septic infarcts in endocarditis is an obvious etiologic factor.

Some investigators mention increased functional demands on the kidneys as enhancing infections. This refers to the burdens of drug excretion or excretion of metabolites after violent exercise, both of which might exhaust the organs' resistance to infection.

Clinical Manifestations and Diagnosis

Symptoms of infection may reflect (1) the virulence of the bacteria and (2) the urinary and general resistance of the host. Manifestations of infection may be minimal or severe. About half of the chronic infections are relatively asymptomatic. In general, the shorter the duration of the disease, the greater the likelihood of urinary symptoms. Infections manifested by chills, fever, and toxemia are usually associated with dysuria or flank pain and tenderness that direct attention to the urinary tract. However, in about 10 per cent of the cases in which an acute urinary infection is causing a systemic reaction, urinary symptoms are absent. Without localizing signs or symptoms, the infection may masquerade as fever of undetermined origin; in such cases it is important to investigate the urinary tract.

The interrelationships of infection, renal loss of potassium, and hypertension are not known; perhaps any one of the three can initiate the other two, thus establishing a vicious circle. Seemingly, hypertension associated with pyelonephritis is more likely to eventuate in uremia or strokes, and, less often, in congestive heart failure. Some patients present with malignant hypertension or encephalopathy with convulsions and rising diastolic pressures, especially during an acute exacerbation of the infection.[4]

In such syndromes as uremia of obscure origin, "salt-losing nephritis," and toxemia of pregnancy, the possibility of underlying chronic urinary infection should be weighed. In toxemia of pregnancy when proteinuria, pyuria, and hypertension persist for 7 days postpartum, urinary infection may be causative. Since urinary calculi predispose to infection and since one of the ultimate phases of healing in infection of the urinary tract may be nephrocalcinosis, calcification suggests infection. Infection may be a complication in certain other underlying abnormalities of the urinary tract or of the host. In this regard idiopathic retroperitoneal fibrosis, which for the most part occurs in men in their early forties, may obstruct the lower third of the ureters and is frequently complicated by urinary infections. In urinary infections in diabetics, especially when oliguria occurs, necrotizing papillitis should be considered.

With certain states such as pregnancy, diabetes, disease or injury of the spinal cord, pelvic relaxation, and prostatism, urinary infection is highly probable although many of these infections may be relatively asymptomatic. Although the phenomenon is not so common as it was previously, underlying tuberculosis should be considered in patients who have chronic urinary infection, especially if the patient has evidence of the disease elsewhere; the same applies to brucellosis. Even more confusing is secondary bacterial infection in patients with primary renal disease such as nephrosis or glomerulonephritis.

Routine catheterization is unnecessary in the bacteriologic study of the urine in men; examination of a second-glass specimen is sufficient.

One hundred thousand or more bacteria, cultured from a milliliter of urine, characterizes 95 per cent of the specimens of urine from patients with urinary infections. Many clinical infections have quantitative bacterial counts of 1,000,000 to 10,000,000 organisms per milliliter. Counts of less than 10,000 bacteria per milliliter usually do not indicate infection. Since quantitative urine cultures appear to be at least 95 per cent reliable and since the bacteriologic reliability between specimens obtained from women by catheterization and by clean voiding exceeds 85 per cent, routine catheterization for bacteriologic diagnosis appears unnecessary as a routine procedure in women also.[5]

The number of bacteria in urine should be determined within an hour after passage of urine, or the sample should be refrigerated since storage at room temperature may permit the number of bacteria to reach 10,000,000 per milliliter in 24 to 48 hours.

Bacteriuria is detected in a number of patients who otherwise appear to have a normal urinary tract; that is, they lack pyuria and urinary symptoms. The simplest way to detect bacteriuria, asymptomatic or otherwise, is to examine a Gram stain of an uncentrifuged specimen of the urine. If bacteria are found, the count is taken to be more than 100,000 per cubic millimeter. The intrinsic error in this procedure appears to be less than 20 per cent; this procedure often provides pertinent data prior to the report of quantitative urine cultures but preferably should be corroborated by them.

Although bacteriuria, ipso facto, does not indicate pyelonephritis, the more persistent the bacteriuria, the more likely the presence of infection in the case at hand. Bacteriuria may reflect (1) urinary infection, (2) histologically deranged kidneys, that is, secondary invaders, (3) normal urethral organisms, or (4) contaminants.

Absence of significant bacteriuria in a patient with clinically evident infection raises the questions of (1) precultural administration of antibacterial agents, (2) ureteral obstruction, (3) excessive hydration, which may be indicated by a low specific gravity of the urine, or (4) a pH of the urine that is less than 5, which per se can produce bacteriostasis.

As aforementioned, pyuria and bacteriuria are not invariably associated. Significant bacteriuria occurs without pyuria, and pyuria does not necessarily indicate infection. Reliance on pyuria to indicate infection results in an error of 25 to 50 per cent. In dehydration after the use of certain drugs, pyuria is frequent among other causes, in women with vaginitis and in men who have had transurethral prostatic resection. This pyuria, however, does not reflect urinary infection.

Hematuria is not characteristic of pyelonephritis, and calculus, tumor, and so forth are considered first. Albuminuria is also not characteristic of infection and is more suggestive of glomerulonephritis. In urine of low specific gravity, detection of so-called gitter cells suggests pyelonephritis.

The most commonly employed indices of urinary infection are (1) demonstration of persistent bacteriuria, (2) compatible findings on renal function studies, (3) corroborative cystoscopic and urologic studies, and (4) positive microbiologic and histologic data on renal biopsy. The degree of renal damage caused by urinary infection usually parallels the duration of the infection rather than the severity of symptoms. Concentration and renal clearance tests help to distinguish advanced infection from less serious renal involvement. If, after fluids are withheld overnight, the specific gravity of the urine is 1.020 or more in the morning, renal function is probably adequate.

Evidence of chronic urinary infections is found in about 10 per cent of the routine necropsies and in 25 per cent of the necropsies on previously hypertensive patients, but an antemortem diagnosis is made in a smaller percentage of cases. Individuals with asymptomatic bacteriuria may account at least in part for this discrepancy.

Since about 50 per cent of the chronic urinary infections are relatively asymptomatic, and since about 10 per cent of the acute infections lack urinary symptoms, and since significant bacteriuria may be present without pyuria, it is evident that many of these infections may not cause diagnostic symptoms or show abnormalities on routine urinalysis. Thus, it is difficult to disregard advice to search for bacteria in stained specimens of urine from all patients, with or without pyuria or urinary symptoms, before their urinary status is diagnosed.

Therapeutic Considerations

Negative cultures of urine, especially after use of bacteriostatic drugs, should not cause the physician to relax his scrutiny because the infection may recur shortly. In the laboratory, with concentrations that are unattainable in the body, these agents may kill bacteria. The term bactericidal is used to designate drugs that, in concentrations that are clinically attainable, will eradicate bacteria. The bactericidal agents include penicillin, streptomycin, bacitracin, neomycin, polymyxin B, colistin, ristocetin, kanamycin, and vancomycin. Conversely, bacteriostatic agents may not eradicate bacteria but do suppress them. The bacteriostatic agents include chloramphenicol, the tetracyclines, erythromycin, novobiocin, triacetyloleandomycin, the sulfonamides, nitrofurantoin, the mandelates, nalidixic acid and methionine.

Although of considerable help in refractory and staphylococcal infections, results of bacterial susceptibility tests cannot be taken as dogma since a bacteriostatic drug may be indicated on this basis, but on an empirical basis a bactericidal effect will be required. Experience also may indicate that certain antibacterial agents will be effective, despite results of bacterial susceptibility tests to the contrary. Studies of bacterial susceptibility need not be done routinely in acute non-staphylococcal infections, since they are time-consuming and expensive and may not contribute any additional help. However in an acute infection that is resistant to therapy, regardless of its bacterial etiology, and in recurrent or chronic infections, susceptibility tests in conjunction with others, including urographic and cystoscopic studies, may prove rewarding.

When prolonged use of a vesical catheter is required, an 0.1 per cent solution of lactic or acetic acid delivered via slow drip into the bladder may reduce the pH of the urine to 5 or less and prevent infection. Irrigation of the bladder several times daily with chlorhexidine (1:20,000) and the rinsing with neomycin- polymyxin B via a three-way catheter also have been recommended.[6]

Asymptomatic bacteriuria may be demonstrated prior to the onset of clinical manifestations in acute and recurrent infections. Under such circumstances the nonantibiotic antibacterial agents are used just as they are employed in more overt infections. As an example of such management, administration of a sulfonamide to a pregnant woman may eliminate the bacteriuria and prevent acute pyelonephritis. When asymptomatic bacteriuria manifests chronic infection and when obstructive uropathy and predisposing disease are eliminated, one may attempt definitive therapy. If such treatment is not pertinent or has been unsuccessful, one gives suppressive therapy. Asymptomatic bacteriuria is most often detected because of close scrutiny given to likely victims.

Acute Simple Infection. — Since acute simple infections are common, may be transient, and seldom require heroic therapy, treatment can be initiated after preliminary identification of the bacteria by examination of a Gram stain of the urine. Failure to eradicate infection requires further urologic and bacteriologic investigation to exclude underlying pathologic changes, predisposing disease, resistant organisms, and so forth. Infection secondary to stones, strictures, and tumors may have diagnostic value. Premature use of drugs without investigation in such cases may eventuate in a diagnostic loss.

Burning sensation on urination does not always indicate infection. Interstitial cystitis,

urethral caruncle, and senile vaginitis may produce dysuria not due to infection. Dysuria that continues despite control of infection may respond to bladder sedatives such as phenylazo-diamino-pyridine (Pyridium) given in amounts of 0.1 gm. four times daily, but local treatment of the bladder may be necessary.

In general, bacteriostatic agents, including those that are not antibiotics, are used in acute simple infections. For more serious or complicated infections, bactericidal agents are preferred, with consideration of the limitations of drug toxicity and the routes of administration. The nonantibiotic drugs that are used in acute simple infections include (1) the sulfonamides, (2) nitrofurantoin, (3) calcium mandelate or methenamine mandelate, (4) acidifying agents such as methionine, and (5) nalidixic acid.

For acute uncomplicated infections, a sulfonamide may be used because of its low cost and ease of administration; for patients who are allergic to sulfonamides, nitrofurantoin may be given. Nalidixic acid also has use in some of these latter patients. For enterococcal infections, either calcium or methenamine mandelate may be used and acidification of the urine is advised. When more than 8 gm. of methionine is given per day to acidify the urine, the patient may note the odor of hydrogen sulfide about his person; therefore, a combination of methionine and either calcium or methenamine mandelate may be preferable. Other acidifying agents such as ammonium chloride and ascorbic acid have been given with methionine; if the urinary pH can be reduced to 5 or less, an antibacterial effect may be procured, but maintenance of such a pH is difficult without inducing metabolic acidosis. Use of an acid-ash diet or cranberry juice, which contains hippuric acid, are less commonly used at present.

Recurrent Infection. — Nonantibiotic antibacterial agents also are used when results of investigation are negative and yet infection recurs; a dose of 0.5 gm. of a sulfonamide or 50 to 100 mg. of nitrofurantoin is given four times daily for 1 week of each month for several months. Nalidixic acid also may have use in this regard. This may disallow further recurrence.

Recurrent infection in the absence of demonstrable uropathy or predisposing disease may not represent a series of unconnected episodes. Rather, the recurrences may reflect reactivation of temporarily quiescent bacteria that have continued to dwell in the urinary tract. Micro-obstructive changes within the nephron due to prior infection may enhance the possibility of future infection. Antibacterial prophylaxis may provide an infection-free interval during which resistance to further infection may develop. Antibacterial prophylaxis usually is given for at least 6 months after an infection has been controlled, and then it is discontinued in the hope that further medication will not be required.

Chronic Infection. — Nonantibiotic agents also have a place in the treatment of chronic infections when uropathy cannot be corrected or more heroic therapy has proved ineffective. Intermittent or continuous administration of these drugs may minimize the symptoms and sterilize the urine ultimately in some cases. Such suppressive therapy may be continued indefinitely, especially if exacerbations are lessened, in the hope that the degree of progressive renal damage is being reduced; suppressive therapy is often intermittent, for example during the first week of each month, rather than continuous. Nitrofurantoin sometimes is not given these patients because therapy is prolonged and renal function is commonly decreased; both of which might enhance the likelihood of nitrofurantoin neuropathy.[7]

Severe Gram-Negative Enterobacillary Infection. — In general, streptomycin-tetracycline therapy is given in serious gram-negative enterobacillary infections.[8-10] Consideration is given to novobiocin or penicillin in infections due to Proteus mirabilis, polymyxin B or colistin in Pseudomonas infections, erythromycin or chloramphenicol in Haemophilus infections, and chloramphenicol in Salmonella infections. Although less efficient by weight than polymyxin B, colistin methanesulfonate is described as being less toxic but this is disputable.

Streptomycin-tetracycline therapy is used for these severe infections because (1) the onset of bacterial resistance may be delayed by use of more than one antibiotic, (2) streptomycin, which is bactericidal, may enhance

the bacteriostatic effect of tetracycline, and (3) streptomycin-tetracycline therapy, which is given after identification of bacteria and before results of susceptibility tests are reported, gives broader coverage.

In infections that do not respond to tetracycline-streptomycin therapy, results of susceptibility tests to chloramphenicol and kanamycin may be procured with a view to substituting one or both agents. Chloramphenicol-kanamycin therapy is not used routinely in these infections because the regimen has greater potential toxicity than tetracycline-streptomycin therapy. Polymyxin B or colistin also is rarely used in gram-negative bacillary infections other than in those due to Pseudomonas organisms that are unresponsive to streptomycin-tetracycline therapy.

Ampicillin (alpha-aminobenzyl penicillin), a semisynthetic, orally administered agent, is currently under investigation for possible use in infections due to strains of E. coli, Salmonella, and Proteus. This drug is ineffective against Pseudomonas organisms. Although active against certain gram-positive cocci, it is less so than penicillin G, and is ineffective against penicillin G-resistant staphylococci.

Another drug under current investigation is cephalothin, a semisynthetic derivative of cephalosporin C that is given intramuscularly. Cephalothin resembles ampicillin in that it is active against strains of gram-negative bacilli and gram-positive cocci, and in addition it is active against penicillin G-resistant staphylococci.

Perhaps gentamycin, a neomycin-like drug that is given intramuscularly will have application in infections due to gram-negative bacilli.

Severe Streptococcal Infection. — Penicillin-streptomycin therapy is given for serious infections due to enterococci, for example, those due to Streptococcus faecalis.[8-10] For other streptococcal infections penicillin alone is given.

Severe Staphylococcal Infection. —In general, results of bacterial susceptibility tests dictate the treatment of staphylococcal infections. If staphylococci are sensitive to penicillins G and V, these are the drugs of choice. Although phenethicillin may provide higher concentrations in the blood, it has no greater antibacterial effect than penicillin V, and, therefore, they can be used interchangeably. There is cross-resistance among phenethicillin and penicillins G and V.

Methicillin, oxacillin, and nafcillin are not destroyed by penicillinase and hence are active against staphylococci that are resistant to the aforementioned penicillins. However, none of them is automatically the drug of choice in infections due to staphylococci that resist other penicillins. Generally speaking, erythromycin is used if the organism is sensitive to it and is resistant to penicillins G and V or if the patient is allergic to penicillin, since erythromycin can be given orally and is virtually nontoxic. If staphylococci resist erythromycin, novobiocin should be considered; it is absorbed orally, but causes drug rash when its use is prolonged.

If neither erythromycin nor novobiocin can be used, methicillin or an allied drug can be given. For patients who are allergic to penicillin, kanamycin can be tried. Kanamycin should be considered before vancomycin. Although both are ototoxic, kanamycin is given intramuscularly whereas vancomycin is given intravenously. Chloramphenicol should be considered after vancomycin but before ristocetin since ristocetin, like chloramphenicol, depresses the marrow and also requires intravenous administration. Combined antibiotic therapy can be considered before or after chloramphenicol and ristocetin, depending on fear of ill effects on the marrow as well as on available laboratory facilities. In combined therapy a bacteriostatic agent like erythromycin, novobiocin, or chloramphenicol may be employed with bactericidal agents such as bacitracin or neomycin.

When severe staphylococcal infections indicate treatment before results of susceptibility tests are reported, an agent that experience has shown that staphylococci will not resist should be given. Methicillin or an allied drug, novobiocin, kanamycin, vancomycin, and chloramphenicol might be selected, and after 24 to 48 hours when results of susceptibility tests are known, a more pertinent or less toxic antibiotic may be substituted. Perhaps one of the semisynthetic penicillins under current investigation such as cloxacillin, sodium fusidate, or a compound

of the cephalosporin C series such as cephalothin will be included in the antistaphylococcal armamentarium in the near future.

Severe Polymicrobic Infection. — In serious polymicrobic infections, several drugs may have to be given simultaneously. Penicillin along with streptomycin might be given in enterococcal infections and simultaneously with a tetracycline to combat E. coli. Perhaps ampicillin, the semisynthetic penicillin, and cephalothin, the derivative of cephalosporin C, because of their wide antibacterial spectra, will have application in future polymicrobic infections.

Therapeutic Addenda

Streptomycin, polymyxin B, neomycin, bacitracin, kanamycin, the sulfonamides, nitrofurantoin, and the mandelates should be used cautiously in patients who have borderline renal function. Antibiotics capable of ototoxicity include streptomycin, neomycin, kanamycin, and vancomycin. Renal insufficiency, which allows accumulation of these drugs in the blood, may increase their ill effects on the eighth cranial nerve.

Acute infections of the urinary tract should be treated for at least 1 week after their clinical course is controlled and cultures are negative; chronic infections may warrant an even longer treatment.

In addition to relieving any obstruction to the passage of urine and before antibacterial agents can become effective, surgical procedures such as drainage of an abscess or nephrectomy sometimes are required.

Infection may persist despite therapy, especially when bacteriostatic agents have been used. Although cultures of urine may be negative after these agents are employed, the infection may recur acutely within a short time. Thus, in infections that are more than simple acute ones, an antibacterial regimen with a bactericidal effect often is preferred and comparative toxicity and routes of administration must be taken into account. Some of these infections burn out, some may continue indefinitely without appreciable deterioration of renal function, and some may culminate in renal insufficiency.

Failure in the management of an infection of the urinary tract should always bring to mind the nature of the lesion since underlying pathologic changes may make recovery impossible.

SUMMARY

The principles of management in infections of the urinary tract can be synopsized as follows: (1) identify bacteria by use of the Gram stain and procure cultures and bacterial susceptibility tests in severe, recurrent, or chronic infections, (2) initiate treatment with antibacterial agents on an empirical basis when bacteria are identified and when the condition of the patient warrants, (3) search out and attempt to correct any condition that predisposes to infection, (4) initiate procedures to assure free access of the antibacterial agents to the site of the infection, and (5) ensure adequate drainage of the urine when indicated. Since acute simple infections of the urinary tract are common, nonantibiotic antibacterial agents such as the sulfonamides in the therapy of urinary infections have a continued place in the therapeutic armamentarium; however, diagnosis should be as exact as possible to avoid treating the more serious infections with less than adequate agents. If agents such as the sulfonamides fail to eradicate an infection that appeared to have been an acute simple one, then further urologic and bacteriologic investigation should be carried out.

The antibacterial regimens currently having application in urinary infections can be outlined as follows: 1. Preliminary empiric therapy, often in the form of nonantibiotic agents, is given patients who have acute infection without overt evidences of underlying uropathy or predisposing disease. 2. Definitive therapy is given for infections that remain after attempted correction of uropathy for marked systemic reactions especially when prior therapy has been unsuccessful, or as a last desperate effort to preserve renal function. Antibiotics are generally used for these and similar patients in accordance with careful microbiologic and urologic investigations. 3. Intermittent prophylactic therapy in the form of chemotherapy given the first 5 to 7 days of each month for several months is used for patients who have acute recurrent infection after investigation is negative for underlying uropathy or predisposing disease. 4. Suppressive therapy is given to patients who

have chronic infection not susceptible to eradication in attempts to minimize renal damage and symptoms. Nonantibiotic agents are often used and may be given continuously, intermittently, or alternately to avoid unilateral dislocation of the body flora and induction of bacterial resistance.

Careful analysis of the individual infection and the use of common sense in therapy are urged; there is no place for diagnostic or therapeutic dogma in urinary infections. It may be necessary at any stage in the management of infections of the urinary tract to re-evaluate, reexamine, and alter any regimen.

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SYNCHRONIZED —

(Cont'd from Page 25)

procedure, or some modification thereof, will replace previous conventional (medicinal) methods of treatment of certain cardiac rhythm disturbances.

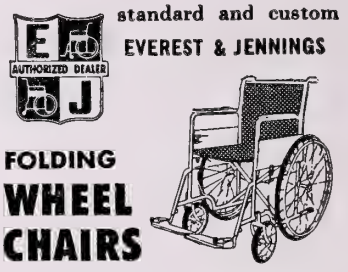
SUMMARY

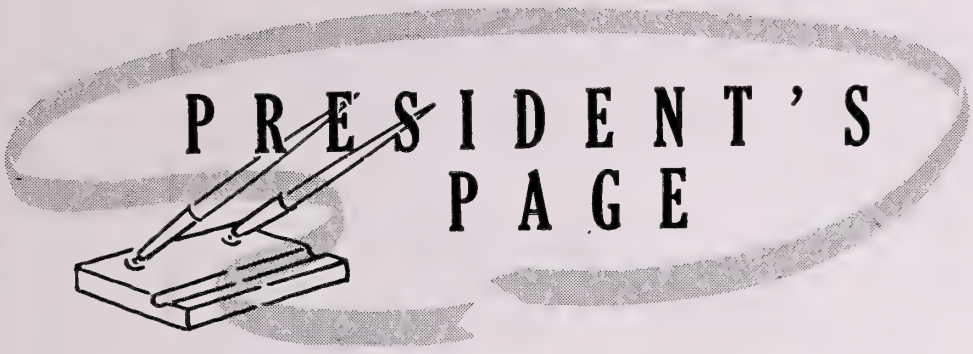
Experiences dealing with twelve patients, during the D. C. counter-shock method of conversion of atrial fibrillation are recorded. There is an outline of the procedure, review of the cases individually and collectively, and finally a discussion of these experiences. This new method of treatment is accepted enthusiastically, but with expressed caution.

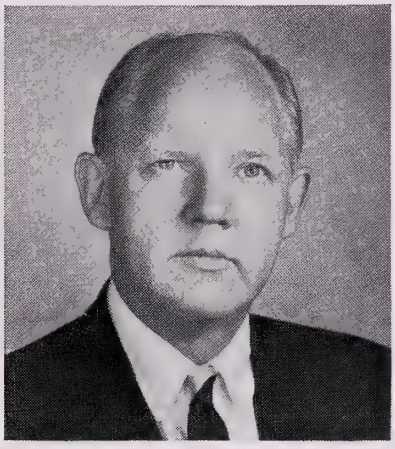
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The Black Hills Medical Symposium will be held in Rapid City, South Dakota on August 7, 1964 and August 8, 1964. A roster of excellent speakers has been obtained for this meeting. An invitation is extended to all physicians and their wives to attend.







Dear Fellow Members,

First, let me congratulate the seventh district on the recently concluded annual meeting. The program was most thoughtfully chosen and instructive. The entertainment was excellent and the arrangements and function of the meeting went extremely well. I can be especially appreciative having recently been general chairman of a state meeting and can fully appreciate all the work and effort that went into planning and conducting such a fine meeting.

It is with a great sense of humbleness and gratitude that I accept your action in allowing me to be president of the State Medical Society for the coming year. I fully realize what a job it is and will do my utmost to perform it to the best of my abilities and in accordance with your wishes.

Let me re-emphasize what has been said by many past presidents, and state that it is impossible for me to do my job well without your cooperation, advice, and help. Before I can accurately reflect your opinions and ideas, I must know what they are — so please call or write to me at any time during the year if you feel there are things that I should know or things I can do to help. These are times of turmoil and sociological change involving the medical profession, and we must communicate with each other and speak with a coordinated and coherent voice if our wishes are to be known and heeded.

With all sincerity, I look forward to a year of service and to the making of many new friends around the state and the renewal of old friendships.

Sincerely,

James P. Steele, M.D.

MEDICAL LIBRARY BOOKSHELF



Selection of outstanding books from the April 20, 1964, issue of the **Journal of the American Medical Association,** p. 264, continued from the June issue of the South Dakota Medical Journal.

The best book on pulmonary pathology available today, according to Dr. Roger S. Mitchell and Dr. Giles Filley, both on the staff of the Webb-Waring Institute for Medical Research at the University of Colorado Medical Center, is H. Spencer, **Pathology of the Lung,** Macmillan, 1962. This is a comprehensive text with gross and microscopic illustrations carefully chosen and excellently reproduced.

A standard text in the field of lung diseases is H. C. Hinshaw and L. H. Garland, **Diseases of the Chest,** 2nd ed., Saunders, 1963. The discussions of the principles of chest radiography, both technique and interpretation, are especially valuable for the internist and the radiologist.

The Ciba Symposium on Pulmonary Structure and Function, Churchill, 1962, is, according to the reviewers, the best symposia on the lung ever held, with physiological, pathological, and clinical material concisely presented by world authorities. This is primarily for the research worker, but valuable for any chest physician.

The books on Endocrinology were selected by Dr. Thomas Frawley of the Department of Internal Medicine, St. Louis University School of Medicine. These were selected for those not widely experienced or specially trained in endocrinology, for their style of presentation, perspective, depth of content, readability and cost.

Diseases of the Thyroid by W. R. Trotter, Davis, 1962 is recommended for the practitioner. For the adrenal and steroids the text recommended is **The Human Adrenal** by L. J. Sofer et al, Lea and Febiger, 1962. In detailing the clinical uses and indications of adrenal steroids, it offers a brief, practical "cook book" for clinical management. Useful for clinicians wanting quick information.

One of the best books on diabetes mellitus, recommended by Dr. Frawley, that supplements the standard textbook of Joslin and Williams is **Clinical Diabetes Mellitus** edited by M. Ellenberg and H. Rifkin, McGraw-Hill, 1962. This is a compilation of articles by 34 experts. It combines theory and practice; has a comprehensive bibliography, and will satisfy those interested in basic pathophysiological processes as well as clinical situations.

For the student and practicing physician, as well as the teacher and investigator in gastroenterology, two physiological texts are recommended by Dr. Frawley. **Physiology of the Digestive Tract** by H. W. Davenport, Yearbook, 1961 and **Gastrointestinal Physiol-**

ogy by D. F. Magee, Thomas, 1962. These present valuable compendia of current physiological knowledge.

The Color Atlas of Intestinal Parasites by Francis M. Spencer and L. S. Monroe, Thomas, 1961, provides a useful visual aid to the recognition of various parasites found in the feces.

In the field of Medical Genetics, Dr. Victor A. McKusick of the Department of Medicine of Johns Hopkins University recommends for the coverage of general principles the books of Fraser Roberts, Lenz, Carter, and Penrose, physicians who are also competent geneticists. **An Introduction to Medical Genetics** by J. A. Fraser Roberts, 3rd ed., Oxford University Press, 1963, is written by "a master at the teaching, research, and clinical practice of medical genetics." **Human Heredity** by Cedric O. Carter, Penguin Books, 1962, in paperback edition is authoritative and readable. Dr. Carter is associated with Dr. Fraser Roberts at the Great Ormond Hospital, London.

Garrod's **Inborn Errors of Metabolism** reprinted with a supplement by Harry Harris, Oxford University Press, 1963, contains a reproduction of Garrod's classic of 1909 (a collector's item).

Another paperback, pocket size publication by a member of the Biochemistry Department at Boston University School of Medicine is **Genetic Code** by Isaac Asimov, Orion Press, 1963. The genetic code and the details of genetic control of protein synthesis are well presented.

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Pop's Proverb

The mind is like an automobile; if not used much, it's hard to start.

NEWS NOTES

Earl B. Scott, Ph.D. has been advanced from Professor of Anatomy to Professor and Chairman of the Department of Anatomy. This Chairmanship has previously been held by **Dean Walter L. Hard** since joining the staff at the medical school in 1946.

* * *

E. R. Squibb & Sons has opened a new manufacturing laboratory in New Brunswick, New Jersey. The new laboratory will enable Squibb to more than double its capacity for making medical radioisotope products Currently, Squibb is supplying about 30 per cent of the medical profession's needs for radioisotopes.

The eighth annual convention of the South Dakota Medical Assistants was held in Rapid City the latter part of May.

Mrs. Ruth Rea, assistant professor of the State University's nursing unit discussed "The Tuberculosis Story in South Dakota Today."

The other guest speaker at the afternoon program was Dr. Arthur Hagelstein of Pierre, whose talk was based on the work he has done with Dr. Albert Schweitzer in Ghana.

Association officers are Mrs. Dorothy Preheim of Freeman, president; Mrs. Rita Grohs of Mitchell, treasurer; Mrs. Irene Schade of Huron, recording secretary; and Laureina Geyerman of Huron, corresponding secretary.

Paul G. Bunker, M.D., of Aberdeen, South Dakota, was elected Vice President of American Bronchoesophageal Association at the April meeting in San Francisco. He also continues as Chairman of the Committee for Prevention of Foreign Body Accidents of the same group.

* * *

Warren L. Jones, M.D., Sioux Falls, has been appointed as Assistant Dean for Clinical Affairs at the University of South Dakota School of Medicine.

* * *

Two South Dakota physicians have been certified by the American Board of Pathology. They are **Karl H. Wegner, M.D.,** of Sioux Falls, and **Stanley H. Nordmo, M.D.,** of Vermillion.



GARY OMODT, PH.D.
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CHANGES IN THE STATUS OF PROPRIETARY DRUGS UNDER FEDERAL LAW*

by

George P. Larrick**

It has been some time now since I have had the pleasure of meeting with you. This year when it was suggested that I fill this spot on the program, I was glad to accept because I felt that recent developments warranted this opportunity to renew acquaintances and to discuss our view of how this industry is affected by the revised Federal Food, Drug, and Cosmetic Act.

The Kefauver-Harris Drug Amendments of 1962 constitute a really major revision of the drug chapter of the Act.

The 20th century has brought forth a great increase in scientific knowledge and a rapidly expanding industrial technology. These advances in science and industry have immensely benefited mankind but have inevitably created many problems. In some instances, this led to enactment of laws for protecting the public in complex areas where the public could not protect itself. These comments are, in our opinion, particularly applicable to the drug field.

At the beginning of the century, physicians were still relying mainly on well-known botanicals and other time-honored products of nature — only a few man-made products were employed in medicine. There were no Federal laws controlling drug distribution — many preparations of secret composition were sold to the public as positive cures for all of the known diseases.

In the **first decade** of the century, there was an increase in the number of **organic chemicals** used in medicine and a few specifics were developed, such as Salvarsan for treating syphilis. In this decade, Congress passed the **Federal Food and Drug Act of 1906,** requiring drugs to comply with their professed standard of strength and purity. This first drug law also made a modest start in dealing with the problem of "secret remedies" by requiring that drugs containing morphine and other narcotic ingredients must list on the label the presence and amount of those particular substances.

*Presented at the 83rd Annual Meeting of the Proprietary Association, Greenbrier Hotel, White Sulphur Springs, West Virginia, May 11, 1964.

**Commissioner of Food and Drugs.

In the **second decade,** more man-made organic chemicals were used in medicine. In this decade, Congress passed the **Sherley Amendment,** prohibiting use of therapeutic claims that were false and fraudulent.

In the **third decade,** useful preparations of **insulin** were produced and a major disease condition, diabetes, was brought under control.

In the **fourth decade,** the discovery of the medical usefulness of **sulfanilamide,** a synthetic organic chemical, renewed the physician's dream of a chemotherapeutic age. This discovery accelerated the pace of drug research and undoubtedly helped lead to the development of penicillin.

The great event of the **fifth decade** was the discovery of the medical usefulness of **penicillin and other antibiotics.** This must be properly hailed as one of the most significant achievements in all the history of medicine. During the **fourth decade,** the Food and Drug Act of 1906 was updated by enactment of the **Federal Food, Drug, and Cosmetic Act of 1938.**

The major drug provisions of the law enacted in 1938 were: (1) a drug was in violation if the therapeutic claims made for it were false or misleading — the Government no longer had to prove that the sponsor had a fraudulent intent before the prohibitions of the statute applied; (2) the Government was given limited authority to conduct factory inspections to obtain information about the procedures used by the manufacturer; (3) the label of every drug had to state the name of each active ingredient and the amount of certain potent substances as specified by the Act and, most important; (4) a "new drug" could not be marketed unless the sponsor filed with the FDA a new-drug application containing convincing evidence that the drug was safe for the intended purposes.

An important development of the **sixth decade** was enactment in 1951 of the **Durham-Humphrey Amendment.** For the first time, Congress enacted legislation specifically dividing drugs into the classes of: (1) articles which are safe for use without medical supervision and which may therefore be sold over the counter and; (2) articles which are not safe for unsupervised use and which are therefore required to be labeled with the legend "Caution: Federal law prohibits dispensing without prescription."

The "new drug" and factory inspection provisions of the 1938 law contributed to far-reaching changes in drug research and production whose beneficial effects are still with us. Drug firms strengthened their scientific staffs by adding more physicians and other medical scientists capable of testing and evaluating drugs. This resulted in an ever increasing amount of factual information in the medical and drug fields. This increased emphasis on modern scientific methods prepared drug firms to make the most of the outpouring of new discoveries accompanying and following World War II. All of this helped make the United States pharmaceutical industry reach its present position of world leadership.

Although these stirring developments in drug research resulted in much that was beneficial, there were some by-products that were not acceptable. Serious abuses were encountered in the methods used by some firms for testing and marketing new drugs, and in the field of drug advertising to physicians. Such abuses led in the present decade to enactment of the **Kefauver-Harris Drug Amendments of 1962.**

The major impact of the Kefauver-Harris law has been in the prescription drug field. There are, as you know, some provisions that apply only to prescription drugs that we think should be extended to all drugs and in some instances to foods and cosmetics as well.

We now turn to the provisions of the Kefauver-Harris law that do affect over-the-counter medicines:

1. The definition of the term "new drug" has been expanded so that now a product must be cleared with the FDA if it is not generally recognized by qualified experts as both safe and effective for the intended use. The sponsor must submit satisfactory evidence of safety and effectiveness before we may "approve" his new-drug application.

   Products that were cleared under the safety provisions of the pre-existing law

have until October 10, 1964, as a grace period, but by that time, satisfactory evidence of effectiveness must be available. If such evidence of efficacy is lacking, the new law directs withdrawal of approval of the new-drug application.

Manufacturers of new drugs are required to transmit promptly to the FDA reports which they receive of adverse effects caused by their new drugs. This will serve as an important aid in the prompt detection of previously unsuspected adverse drug reactions.

2. All antibiotic drugs intended for human use are subject to pre-marketing testing by the FDA to make certain that they meet standards designed to ensure their safety and effectiveness. However, the new law authorizes us to establish exemptions so that a particular antibiotic drug, even though intended for use in humans, may be exempted from batch certification if the manufacturer can comply with the exempting regulations.

   Manufacturers of antibiotic drugs are required to notify us of any reports they receive of adverse reactions caused by their antibiotic drug.

3. Every drug manufacturer must exercise adequate scientific controls in his manufacturing operations. Formerly, the statute provided for corrective action only after a bad product was shipped in interstate commerce — there was no authority to exercise preventive enforcement by requiring the manufacturer to institute adequate control procedures. Under the new law, the manufacturing and control procedures used by the firm must conform with "current good manufacturing practice."

4. People engaged in the manufacture, repacking, or relabeling of drugs now must "register" each year with the FDA. This applies even though they do only an intrastate business. We are directed to inspect each registered drug firm at least once every two years.

5. The new law coins a new phrase, the "established name," meaning the nonproprietary name by which a drug or drug substance must be designated on the label. For substances that have been available for years, it will turn out in most instances that the "established name" is the name that is already familiar as the "common or usual name."

   The Secretary of HEW is authorized to designate the "established name" of any substance when this is desirable in the interest of usefulness and simplicity.

Thus, it is obvious that the new law imposes some important new requirements on your industry. It is good to have evidence already at hand of your earnest search for the data and the procedures needed to carry your industry forward in these changing times.

The December 5, 1963, Proceedings of the Research and Scientific Development Conference of the Proprietary Association were recently brought to my attention. I was struck by the high quality of the presentations of your scientific representatives, especially the illuminating study by **Dr. Daniel M. Green** titled "Clinical Proof of Safety and Effectiveness of Proprietary Medications." Dr. Green points the way for your industry to obtain the kind of data needed to support the marketing of a drug to the public.

Dr. Green's summation is so direct and to the point that it warrants repeating:

> The use of properly controlled clinical studies of both effectiveness and safety are not only mandatory to satisfy FDA regulations under the new drug laws but should go a long way in augmenting the confidence of the medical profession and the consumer in modern proprietary medications.

I would like also to comment on the talk delivered at your December 5, 1963 meeting by **Dr. Chester S. Keefer.** Dr. Keefer is not only an eminent leader of the medical profession, he has a good knowledge of the FDA's regulatory problems because of his experience as medical adviser to the Secretary of Health, Education, and Welfare.

In speaking on "The Public Health Aspects of Home Medication," Dr. Keefer pointed out what all thoughtful persons concede, namely, that there is a very proper place for home medication in advancing the public health.

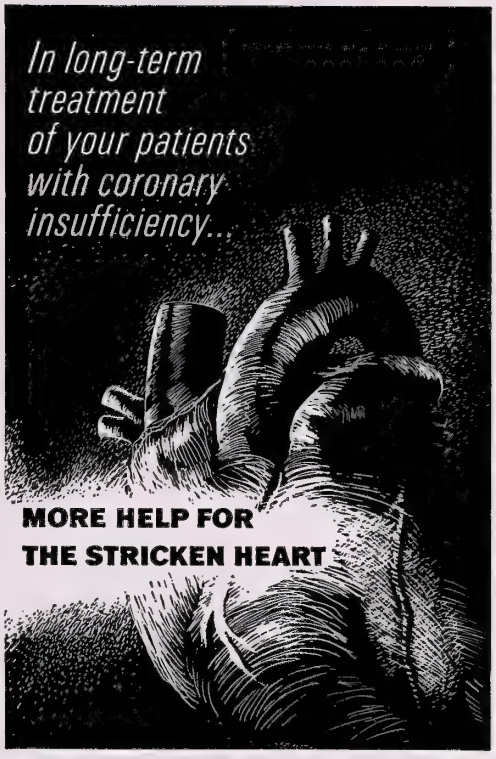
After listing those minor conditions which he regards as the proper subject of self-treatment, Dr. Keefer called for intensified research that will produce more effective agents for preventing and relieving minor as well as major illness.

At one point in his speech, Dr. Keefer pointed out that the pharmaceutical industry bears a great responsibility with respect to the promotion of their drugs to the public. He stated that such drug promotion should be presented in a dignified manner and in good taste, and in a way that is inoffensive. This advice is so sound and worthwhile that we cannot help but lend our special emphasis to it. Your industry should avoid promotional methods that violate good taste and decent standards, and, if I may say so, in the long run you will do yourselves harm by deprecating the products of your competitors.

As to the essential point of Dr. Keefer's message, we find it clearly stated in his summation:

> The public health aspects of **home medication** continue to be important. Society will require new and improved products — developed through research and its application. The demand will be for not only safe products but more effective products, and as the demand is met, the public health will be improved.

In conclusion, I will comment that ours is a time of great change, with new requirements and new challenges pressing upon us continually. In such circumstances, we must hold fast to the thought that the greater the challenge, the greater the opportunity for worthwhile service to the public. As to your own situation, proper application of scientific procedures in drug development and use of restrained and factual promotional methods will enable the proprietary drug industry to move forward. Based on your past performance in dealing with changing conditions, I am confident you will successfully meet the new requirements of the law.



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THE AMERICAN DRUG STORE — A PRODUCT OF ITS COMMUNITY*

by

Louis E. Kazin**

So long as the major portion of professional pharmaceutical service is made available to the general public through our retail establishments, we will be faced with the problems arising from the necessity of practicing a profession within a commercial atmosphere.

Modern day pharmaceutical practices at the retail level can properly be traced from the Civil War period. We are aware, of course, of the contention of many, that historically and traditionally, the American retail drug store and its varied services began in the days of the Revolutionary War.

We believe, however, it would be best at this time to focus our discussion on the past one hundred years and examine the century's effect on drug store procedures, services, and functions.

Some may consider this an arbitrary limitation, not in keeping with the scope of a true examination of retail pharmacy's growth in this country. We feel, however, that an examination of these one hundred years in greater detail than might otherwise be possible, will provide us with a more intelligent insight into the workings of the American retail drug store and its place in the community.

To substantiate this position, may I point out that in this period we saw the beginning of organized pharmacy, the establishment of codes of ethical practice and the enactment of such key rules and regulations as the Pure Food and Drug Act, the Harrison Narcotic Act, and others at the state level which presaged the enactment of the many drug control laws, amended to meet changing conditions, which today control most of the activities of our many faceted pharmaceutical field.

We have also seen the promulgation of laws, economic in nature, which have had considerable influence on modern retail drug store practices.

*Presented to the Section on Historical Pharmacy, 107th Annual Meeting of the American Pharmaceutical Association, August, 1960, Washington, D. C.

**Editor, Drug Topics — Drug Trade News.

The dichotomy of **business and professional services** inherent in our retail pharmacies makes it necessary for many persons, both within and out of the field, to weed out of their thinking any preconceived attitudes they may have relating to the general standards of professional practice. When this is accomplished, one can begin to understand the nature of the indispensable services rendered by our retail pharmacies in their everyday professional and commercial activities.

To offer these seemingly contrasting services within the same physical structure and, what is more important, make such a pattern acceptable to the general public and the associated health professions, demands the development of a flexible personality on the part of the pharmacist.

The economic and professional strength of the country's retail drug stores is the most eloquent testimony to how well the pharmacist has succeeded in creating this rather complex characterization.

Now, you might well ask, are these merely a series of rationalizations presented in order to put the best possible face on a situation which is actually unsatisfactory to most of our pharmacy practitioners and destructive to pharmacy's professional structure?

Our answer to this question is an unqualified "No." There's real strength in the retail pharmacist's seemingly diverse activities. It is a strength which contributes markedly to the profession of pharmacy, the medical practitioner and other members of the allied health professions, the community, and to a system of free enterprise and open competition which has as one of its basic assets a highly efficient distributional process.

To put it another way, this system of free and competitive distribution of goods and services is the very backbone of our economy. As such, any contributions to its efficiency are reflected on every level of community life, whether it be professional, commercial, civic, political, or industrial.

Characterized as the heavy duty outlet of the drug industry, the nation's 54,000 retail drug stores guarantee an efficient distributional pattern for a gigantic industrial machine whose products have come to mean so much to the health and welfare of the world.

It is our contention that, irrespective of the important roles played by such fields as education, research, production, advertising, and promotion in developing a desirable economic pattern for any country, it is the **efficiency of the ultimate distributor** which determines the extent to which the efforts of all others involved are utilized effectively.

Our pharmacists have proved themselves equal to their assigned task. Their combined commercial and professional operations are the result of a series of evolutionary changes based upon the desires and needs of the community. To re-emphasize our earlier statement, a cardinal principle of a free enterprise system is that goods and services be made available to as many people as possible.

Of course, one must always recognize that this principle does not preclude the institution of safeguards which will ensure that certain specialized services are supervised by responsible and competent individuals.

In the early days of our country, a number of indispensable services, as well as goods of all types, were processed through retail pharmacies, not only as a means of guaranteeing financial success, but because within the retail drug store one found individuals who were willing to assume the responsibility necessary for their intelligent distribution.

In doing so, pharmacists saw fit to work longer and harder than many other persons interested in the distribution of goods and services. This dedication to the community has long been one of pharmacy's basic and most valuable assets.

Once the operational pattern of the retail drug store had been established and its 7-day work week and 15-hour-or-more work day had become an accepted part of our community life, the local citizenry began turning to the pharmacist for all types of seemingly extraneous items. He soon found himself irrevocably committed to providing goods and services which in many instances had no direct relation to the professional phase of pharmacy. This was the beginning of a com-

mercial or business pattern which grew steadily under the impact of greatly improved production, merchandising, and promotional techniques.

There could be no turning back for the pharmacy practitioner. His type of operation had become indispensable to the local community. We'll admit, of course, that there may have been some lifting of eyebrows over some of the extremes which showed up in some retail pharmacies. However, in a free enterprise system, one can only regulate against extremes when they become injurious to the public health and welfare, and not because they run counter to our sense of propriety or what most feel are more desirable professional objectives.

Pharmacy has met this highly complicated challenge in a manner which has contributed much to the professional strength of all allied health groups in the local community. That phase of pharmacy's personality associated with professional responsibilities can be looked upon with real pride of accomplishment.

It has provided the medical practitioner with complete freedom of choice of the newest medications by placing the fruits of research by great pharmaceutical industry at the disposal of physicians and patients in every hamlet, town, and city in the land. It has made it easy for a medical care system, associated with and dependent upon the rapid distribution of drug products, to function with unparalleled smoothness and effectiveness.

In terms of providing the highly specialized professional service involved in prescription practice, one merely has to cite the following statistics: In 1939, retail pharmacists of the United States filled **182,180,000** prescriptions; in 1959, just about the same number of retail pharmacists filled **712,770,000** prescriptions.

We can offer many other statistics to buttress this claim of accomplishment and service, but these figures speak for themselves. As a professional personality, therefore, the pharmacist would appear to be developing rapidly and more strongly than ever before.

All this, mind you, has been accomplished within a more or less commercial atmosphere. We think it has been shown convincingly, however, that this commercialism is not necessarily in conflict with the pharmacist's professional services.

The mere mention of commercialization brings to mind the varied group of sundry items which is found in the typical retail drug store. On the surface, these may appear to be in conflict with pharmacy's objectives. Yet, many a successful pharmacist, successful in terms of professional stature and economic success, has achieved a proper and acceptable balance between his necessary business and professional activities.

You may have noticed that we have moved away from a discussion of the drug store itself and are concentrating on the pharmacist. We believe this to be advisable inasmuch as experience has shown that in any professional sphere of activity it is the individual who makes the major contribution to the profession's growth and not necessarily the physical environment with which he surrounds himself.

Today's pharmacists view themselves as almost indispensable men in the highly complex and vital distributional pattern to which we have been referring. This, of course, has necessitated the development of a businessman personality. Again, may we say that the strength of our retail pharmacist attests to the high degree of success he has attained in creating both the business and professional personalities.

As we have contended all along, the retail pharmacist of the United States is a **product of what his environment demands of him.** He has proved himself to be representative of all small businessmen in this country and he has shown how important small business can be to the life of the community. In a highly competitive economy, where the incompetent fall rapidly by the wayside, he has exhibited amazing tenacity of purpose and business ingenuity.

We can probably conclude this paper with a quotation from a survey conducted by the National Wholesale Druggists Association under the co-chairmanship of **Henry F. DeBoest** and myself. While you may already have seen many references to this study, we feel there is still a great deal of material in it which needs further analysis.

As part of this study, we attempted to ascertain the public's image of the American drug store. Permit me to quote from the opening paragraphs of this study, titled "The General Image of the Drug Store. "

"This is not a simple idea. The drug store is many things to many people; even many things to any one person. It is a necessity, although some of the items carried may be viewed as frivolous. It is a public place, yet one may wish it to be a private place when seeking advice or products which may be embarrassing to request publicly. It has a bathroom character, in terms of drug and cosmetic products, but it is still a sociable, pleasurable place. It is commercial yet professional. It is close, familiar, and often used, yet a place to be nostalgic about, where changes have occurred that push some ideas about it into an ideal past.

"This nucleus of definitions provides some insight into attitudes and expectations. An examination of each in turn follows. Some of them may seem contradictory; but human beings rarely feel all one way about anything. We may eat a rich dessert while on a diet; wanting one does not preclude wanting the other."

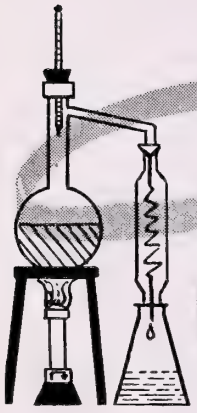
In spite of all we've said, there are probably many who disagree. They take the position that pharmacy will never assume its proper place in the professional scheme of things unless it divorces itself completely, or as much as possible, from commercial activity.

We obviously are of the opinion, as further indicated in the aforementioned survey, that the drug store situation adds up to a "picture of an unique American institution, with expectations and demandingness from the public for a remarkable blend of protection, sociability, nurturance, intimacy, and service." And it may be that some of the stresses and criticisms people feel concerning drug stores are due to the drug store's attempts to turn away from accepting this demanding role.

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Advances In Drug Research

IMMUNOHEMATOLOGY

What is blood?

In philosophy and literature, lay and sacred, "blood is the life."

Medically, blood is a complex form of animal tissue which possesses the unique capacity to nourish other tissues and itself.

The gross physical composition of blood consists of red and white corpuscles (tissue cells) and serum (liquid medium in which the cells function). The blood of man differs from that of all other animal species, a fact which became evident long before the birth of modern medicine when experiments in transfusing sheep or other animal blood into man proved fatal.

The histochemical composition of blood, human blood, has been studied for approximately 70 years and everything that three generations of researchers have learned constitutes a body of knowledge so great that probably only a few men in the world are familiar with all its complexities. A subscience of biochemistry and genetics, this field of study is called "immunohematology." It is vital to the scientific understanding of the physiological differences between each man and every other man, and its techniques are essential in providing forewarning against hazardous mixing of bloods.

One of the pioneers of immunohematology is **Philip Levine,** M.D., identified with the discovery of the Rh factor in blood and application of the discovery to medicine. He is now director of the Division of Immunohematology of the Ortho Research Foundation. A resume of Dr. Levine's life and work, his teachers, colleagues, and those he has taught is a summary of the history of immunohematology. What follows is a skeleton of fact made up of names, dates, discoveries, and a few discoverers.

Karl Landsteiner, M.D., chemist, pathologist, the first immunohematologist. He discovered and reported in 1900 the first three blood groups identified as A, B, and O. At the same time, he suggested that success or failure of a transfusion — that is, a homotransplantation of tissue — depended on selection of donor and grantee from the same blood groups, and he extrapolated the hypothesis that differences in blood groups are multiple and of genetic origin.

(**J. Gregor Mendel,** abbot of the Augustinian monastery at Bruun in Moravia, in 1886, published his results of breeding experiments which are now the basic data of the science of genetics. The assumptions of Landsteiner, and others who followed him, have been borne out. In fact, the genetic theory which has finally prevailed was worked out mathematically without any reference to biological experimentation more specific than that of Mendel whose "experimental animal" was the sweet or flowering pea. Mendel belongs in this summary because his genetic principles cover those of blood-group inheritance.)

A. v. DeCastello and A. Sturli, at the urging of Landsteiner, extended studies similar to his and, in 1902, established a fourth group, AB.

E. V. Dungern and L. Hirszfeld, in 1910, described subgroups of blood group A, and, more significantly, demonstrated the heredity of the A and B factors as due to two independent sets of genes.

Landsteiner, as a refugee first in Holland and then at the Rockefeller Foundation in New York City, confirmed that Group O sera contain a cross-reactive antibody now believed to be important in the pathogenesis of ABO disease.

Levine and Landsteiner, in 1926, first published a joint paper — Levine was then 26 and only three years out of Cornell College of Medicine, and Landsteiner was then at the Rockefeller Institute. In 1927, Landsteiner and Levine reported the discovery of still another blood factor, M, and later described two other new factors, N and P. In the same paper, they described (a) a racial difference in M between Negro and white; (b) heredity of M as a Mendelian dominant; (c) A_1 as a hereditary property; (d) serological relationship of M and N; (e) higher incidence of P in the blood of Negroes than in that of whites.

At this point, in 1929, Dr. Levine has written, 72 different types of blood had been identified. Today, thanks to the research of scores of immunohematologists in all parts of the world, the number has grown enormously by subgroupings and sub-subgroupings of those already described and others — Rh and hr.

The initial Rh antiserum was discovered by injecting red cells from rhesus monkeys into rabbits. It was studied as a human pathological factor in the blood of a woman who had been delivered of a stillborn fetus and thereafter had received 500 ml. of her husband's blood and two other transfusions. Further study indicated that a factor in the fetal blood, inherited from the father, was responsible for the isoimmunization.

The elucidation by Levine and others of immunohematological factors provided by this case (explaining fetal erythroblastosis), coupled with discovery of the anticoagulant properties of sodium citrate, and followed by the tremendous demand for transfusions in World War II, brought a vast expansion of research and of blood-factor discoveries. A report published in 1950 (Landsteiner had died in 1943) estimated that there were **29,962** detectable combinations of the blood-group systems then known. In 1960, Dr. Levine listed — only as examples — 15 blood factors discovered in the preceding five years. And he added: "Landsteiner's concept of the individuality of human blood has come very close to fruition."

The discovery of additional blood factors in recent years has made more accurate crossmatching of blood possible, with the result that transfusions today rarely produce unwanted patient reactions.

Blood compatibility tests consist basically of two procedures. The first, the major crossmatch, determines the possibility of reaction between the recipient's blood serum and the donor's red cells. In the second, the minor crossmatch, the test is reversed — the recipient's cells are tested with the donor's serum for possible reaction.

Before the identification of the blood factors now known to science, blood transfusions were sometimes fatal, or at best produced frequent undesirable reactions in the recipient.

These effects usually resulted from the reaction of substances in the serum of the recipient capable of destroying the transfused blood cell.

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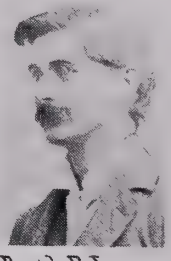
First Class in Pharmacy 1888-89



James H. Shepard



Cyril G. Hopkins



David F. Jones



Bower T. Whitehead



Charles A. Locke



Earl R. Serles



Floyd J. LeBlanc

PROFESSOR PRESENTS GIFT TO COLLEGE

Clark T. Eidsmoe, professor emeritus of pharmacy at South Dakota State University, presented the College of Pharmacy with eight large photographs which were attractively framed and lettered by Professor Eidsmoe. The photographs show the first class in pharmacy, 1888-89, and also the men responsible for the administration of pharmaceutical education at the College of Pharmacy. The pictures will hang in the dean's office and are reproduced above in chronological order:

First Class in Pharmacy, 1888-89.

James H. Shepard — Professor of chemistry; organized and taught the first courses in pharmacy in 1888.

Cyril G. Hopkins — Acting professor of pharmacy, 1893-94, and assistant in chemistry. Resigned in November of the fall term, 1894-95.

David F. Jones — Professor of pharmacy, 1895-96, and first head of a separate department. Pharmacy was originally a part of the chemistry department.

Bower T. Whitehead — Professor of pharmacy and head of department, 1896-1917.

Charles A. Locke — Acting professor of pharmacy and head of department, 1918-19, when Dean Serles was in the military.

Earl R. Serles — Succeeded Whitehead. Head of Department of Pharmacy, 1917-23. In 1923, the Department of Pharmacy became the Division of Pharmacy.

Floyd J. LeBlanc — Dean of Pharmacy, 1940-64.

PHARMACEUTICAL EDITORIAL



Clark T. Eidsmoe

NOT MERELY TO TRAIN — BUT TO EDUCATE

New York — When the average person hears these two words, he invariably relates them to Manhattan Island although reference may be to the entire city of New York, to the state of New York, or even to a flavor of ice cream. The reason for this is obvious. Manhattan is perhaps the most impressive part of New York City with its lights, avenues, stores, plays, etc.

When most pharmacists in South Dakota speak of or hear of the Department of Pharmacy at South Dakota State University, their memories must most certainly drift to one man—Clark T. Eidsmoe, professor and head of that Department. He has served in this capacity for almost a quarter of a century and has been on the pharmacy faculty at the University since 1929. This period of time is impressive by itself, but much more important is what Professor Eidsmoe has done during these years. He has affiliated with a number of professional societies, has authored a number of professional and scientific articles, has served as an officer of national associations, and, most important, he has been and is an excellent teacher of the practice of pharmacy.

We usually think of a teacher as teaching students and tend to forget that teachers also influence and teach those other than students. When a person has associated with Professor Eidsmoe as a student, a faculty member, a club member, a neighbor, a businessman, or even as a stranger, he cannot help but be a better person for that association.

Professor Eidsmoe is an uncompromising man. He will not compromise with tardiness, poor scholastic ability, an unkempt appearance, poor ethics, or an insincere attitude. He not only will not compromise with these characteristics relative to his students, but also relative to himself.

Because of his ability as a teacher, his attitude as a teacher, and his behavior as a human being, Professor Eidsmoe has done more than most of us realize for the advancement of the profession of pharmacy.

Professor Eidsmoe retired from his academic position as of July 1, 1964 and now has the title of "Professor Emeritus, Pharmacy."

Because of his accomplishments and because of his retirement, Professor Eidsmoe was honored with a banquet on May 5 in the Crest Room at the Student Union. The banquet was hosted by Dean and Mrs. LeBlanc. The guests consisted of Professor and Mrs. Eidsmoe, President and Mrs. Briggs, and the pharmacy faculty and their wives.

After the banquet, Dean LeBlanc introduced President Briggs who presented some appropriate remarks relative to the occasion. Following President Briggs, Dean LeBlanc presented Professor Eidsmoe with a very attractive desk set with an inscription honoring him as an outstanding educator in pharmacy. The desk set was a gift from the members of the pharmacy faculty. Kenneth Redman, professor of pharmacognosy, presented Professor Eidsmoe with a historical photo album recalling past days at South Dakota State University. Professor Eidsmoe responded with a speech on pharmaceutical education.

Professor Redman gave a slide and movie presentation of pictures and topics that were contained in the album. The evening was concluded with an informal visit with Professor and Mrs. Eidsmoe.

The texts of the remarks made by Dean LeBlanc, President Briggs, Professor Redman, and Professor Eidsmoe follow.

REMARKS OF DEAN FLOYD J. LEBLANC

This party is in honor of Clark T. Eidsmoe, professor of pharmacy and head of the pharmacy department. Clark retires this year and will become our first Professor Emeritus of Pharmacy. Clark, we have not arranged a long or elaborate program, but I am sure we would all like to hear a few words from our president, Dr. Briggs.

Clark joined the staff of the Division in 1929. In 1940, he was made Professor of Pharmacy and Head of the Department. I could go on at great length to tell you of his many accomplishments, the organizations on both a national and state level that he belongs to, the committees on both a national and state level that he has served on with distinction, and the excellent work he has done here at State College, but I am not going to do that as I know most of you here are aware of his record.

It is not going to seem quite the same next Fall when the University opens, to not have Clark here to take his usual classes. I know the entire faculty and students will miss him. I have worked with Clark longer than anyone else and I know I will miss him more than anyone. I often took one of my problems to Clark and always received good, sound advice. Clark always carried a full teaching load, but he was never too busy to accept an extra committee appointment or assignment. He never said, "I am too busy, you will have to get someone else to do it." When he accepted, I knew the job would be done soon and done very well.

I know that I express the sentiments of everyone here in wishing Clark and Alice many years of good health and happiness.

Clark, as a token of our esteem, the entire staff of the Division of Pharmacy wishes to present you with this gift.

REMARKS OF PRESIDENT H. M. BRIGGS

An incoming president is not on the campus very long before he starts to hear varying evaluations of staff members. Within a very short period of time after I came to South Dakota State, I began to hear about the "Great White Father." This was not only on the campus, but as I traveled over the state, and especially when I came in contact with pharmacy graduates from this institution. At first, I did not know who the "Great White Father" was. Naturally, I pictured him as a man of tremendous physical structure. One day I was highly shocked to find that they were referring to you, Professor Eidsmoe. You did not necessarily fit the physical picture that I had in mind.

Of course, I discovered that the "Great White Father" was a term of endearment of an appreciative group of students that had passed through your classrooms and laboratories. They had come to value you, because of your extraordinary ability to teach, and to teach the value of perfection in their professional careers. It really did my heart good to have them tell me how much you had meant to them personally, by the outstanding examples that you had set and the standards that you had enforced.

Really, what greater tribute can we have, than to have our former graduates appreciate the fact that we have tried hard, and have delivered something of extremely great value to them. Every place I go, I hear of what you have instilled into the hearts and minds of your students. This is a record of which you can be proud.

Now that I have discussed your relationship with students and how much they have appreciated you, I would like to talk about what you have meant to your colleagues. You will be interested in knowing that a few days after it became general knowledge that you would be retiring on July 1, I had an admiring colleague from another Division other than Pharmacy, come into my office and ask to discuss something with me. Actually, it never became a discussion, because I sat and listened to a monologue. This disturbed professor proceeded to tell me in no uncertain terms what he thought of the state, of the institution, and of the administration that would retire staff members when they have so many good years left. As I listened, it became evident to me that the person must be mistaken about your age. I then informed him that I really did not know what your age actually was, but that your mother had given a certain birthdate on which you were supposed to have been born, and we had to go by that. You never saw a more surprised person than when he found that you were being retired because you had reached your 70th birthday. He then informed me that he thought you were much younger, and he was glad that I had explained the situation.

Professor Eidsmoe, I think that the discussion which I listened to from this very admiring faculty member, illustrates very nicely the extremely high esteem with which you have been held by your colleagues at South Dakota State. Not only in your division but across the entire campus. They have come to value your counsel, your judgment, and your quiet competence. It is apparent to me that you have always been a young man at heart, and you have been regarded by your fellow staff members as an active and vigorous young professor that had turned prematurely gray.

I think that the evaluation that you have been given by your students and by your colleagues is the highest tribute that could be paid to a staff member. These are the people that have known you best and have had the greatest opportunity to observe your effectiveness and influence. The high respect in which you have been held by the students and faculty alike is the greatest accolade that can be given.

We certainly wish you and Mrs. Eidsmoe the very best in the years ahead. This institution deeply appreciates the great contribution that you have made.

REMARKS OF PROFESSOR REDMAN

President and Mrs. Briggs, Dean and Mrs. LeBlanc, Colleagues and Guests:

The pharmacy staff held several meetings without Professor Eidsmoe, considering what to present him on this auspicious occasion. The problem was to select the proper gift to show our deep respect and appreciation to our colleague. What should we give a man that has everything, including color television and a Cadillac automobile?

We finally decided to follow the advice of Zsa Zsa Gabor, when asked about what to give a man who has everything — give him encouragement!

Clark, on behalf of the pharmacy staff, I present you this album depicting various activities at South Dakota State College since your arrival on the campus in 1911. Activities of this past year are especially stressed, with colored pictures of the staff members and their families. We trust that this gift will give you pleasure for years to come and that you will be encouraged to maintain an active interest in your profession and South Dakota State College.

RESPONSE OF PROFESSOR EIDSMOE

First, I want to express appreciation of Mrs. Eidsmoe and myself for this wonderful affair, for the very fine dinner, and the gracious remarks of President Briggs, Dean LeBlanc, and Professor Redman. I want to thank you, too, for the beautiful plaque, and the photographic record which you have given me. Appreciated also is your thoughtfulness in sending that lovely corsage for Mrs. Eidsmoe to wear tonight.

My contract states I am now "Professor Emeritus, Pharmacy." What an important sounding title! I hope all of you are properly impressed with it, and that you will accord me the respect my title carries. One feature I have understood goes with my new status is the right to make a speech, and no matter how tiresome it is, none of my audience is to appear bored. I intend to exercise that privilege now!

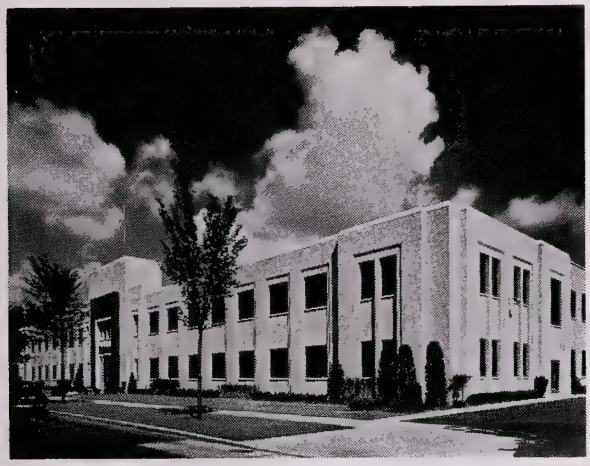
First, a few reminiscences. Dean LeBlanc has told you I joined the pharmacy faculty in 1929. That is true, but my first connection with the college was long before that date. I enrolled as a freshman in pharmacy in 1911, and was awarded the Ph.G. degree in 1913. It has been my privilege to have known every person who has "headed" pharmaceutical education at South Dakota State since the course was first introduced. Professor James H. Shepard, in 1888, organized a two-year course in pharmacy. This was the start of our College of Pharmacy. My freshman chemistry, 1911-12, was taught by Professor Shepard. Cyril G. Hopkins was acting professor of pharmacy, 1893-94. Professor Hopkins was brought back to the campus as the commencement speaker at the time I received my Ph.G. degree in 1913 and I was introduced to him at that time. David F. Jones, long a Watertown pharmacist, was head of the Pharmacy Department, 1895-96. In an "exodus" of faculty which occurred at that time, David F. Jones was among those who had to "walk the plank." Mr. Jones was president of the South Dakota Board of Pharmacy at the time I wrote the Examination. Professor Bower T. Whitehead was head of the Pharmacy Department during my years here, 1911-13. I considered him a very able instructor. Certainly, he was a very hard worker, carrying a heavy teaching load in addition to his administrative duties. Professor Whitehead was succeeded by Professor, later Dean Serles, in 1917 and he by Dean LeBlanc in 1940. During 1918-19, while Professor Serles was in the military service, Mr. Charles A. Locke was acting professor of pharmacy and acting department head. With the last three named individuals, most of you are as familiar as I.

I have heard a statement made by a pharmaceutical educator, "It must never be forgotten that the primary purpose of the colleges of pharmacy is to train people to practice pharmacy." I have little doubt that the individual who made that pronouncement had the best of intentions. I should like, however, to amend his wording somewhat, because I think it may bring out a different meaning. It is possible to take a bright high school student and train him to do many things. He may even develop a certain degree of skill. The time may come, however, when this training will be found to be inadequate to a situation which may arise. I think instead of training our students we need to **educate** them, and that **education** should be not merely to practice pharmacy, but for well rounded citizenship, so they may make their proper contributions to the community. I hope we have been **educating** rather than merely training our students here at State.

Anyone who has been at the Washington Monument in our Nation's Capital may have observed a line which seems to suggest that the work of erecting the monument might have been temporarily halted at this point. Such a work stoppage did actually take place, the reason being that when the position now marked by that line was reached, it was discovered that the foundation was not adequate to support the taller structure. In other words, it was necessary to deepen the foundation before the monument could be built higher. Pharmacy has been faced with the same problem on a number of occasions in the past. We have found it necessary to go deeper before we could go higher. No doubt times will come again when we will find we must go deeper so that we may go higher.

As to the future of pharmaceutical education at State, I think it is a bright one. The

frontiers of pharmaceutical education and of pharmacy are limited only by the vision and imagination of those who direct their activities. The people who are in charge of our program here at State are well endowed with these qualities. I have no misgivings as to the future.



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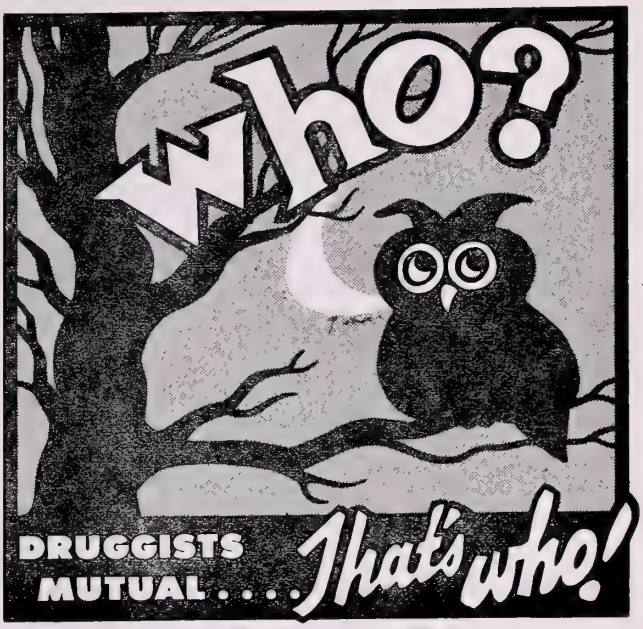
PROFESSOR GROSS TO PARTICIPATE IN WALGREEN SEMINAR

Guilford C. Gross, professor and head of the Pharmacology Department at South Dakota State University, was invited by Walgreen Drug Stores to take part in the 1964 Walgreen Seminar in Pharmacy Administration, June 15-26. Professor Gross became dean of the College July 1.

Sponsored by Walgreens, in cooperation with leading pharmacy colleges, it marks the seventh such seminar to be held by the firm. Purpose of this unique seminar is to give pharmacy educators a current, first-hand study of rapidly changing retail drug operations—a broadened business point of view to help them better prepare students for successful drug store management.

Sixteen pharmacy educators from leading colleges and universities attended the 14-day seminar at the Walgreen Chicago headquarters; they participated in round table discussions, attended lectures by company executives, and took field trips through various phases of Walgreen operations.

As in previous Walgreen seminars, the stimulating exchange of information and ideas between pharmacy faculty and retail drug executives is again expected to prove a mutually valuable dividend.



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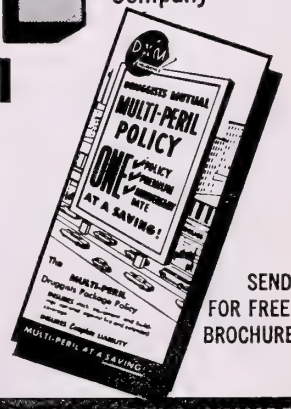
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Among those belongings were $850 worth of U.S. Savings Bonds that the senior Mr. Wong had purchased when he was a defense worker in this country during the second world war.

His son, James, of San Francisco, who was named beneficiary, explained the situation to the Treasury Department. After verifying the facts, they paid the full amount plus interest.

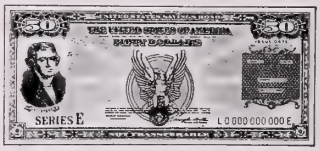
James Wong, like many other Americans, is sold on the safety of U.S. Savings Bonds. But far more important to him is the fact that Savings Bonds help protect us from the kind of tyranny that killed his father.

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Mr. Wong urges you to join them.

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PHARMACEUTICAL NEWS

PROFESSORS HONORED AT SDPhA CONVENTION

The South Dakota Pharmaceutical Association opened its 78th annual convention at Mitchell on Sunday, May 17th. At the banquet that evening, several South Dakota State University professors of pharmacy were honored. The Association presented plaques for outstanding service to pharmacy to **Floyd J. LeBlanc,** dean of pharmacy, and to **Clark T. Eidsmoe,** professor emeritus of pharmacy.

Also honored at the banquet was **Guilford C. Gross,** professor and head of the Department of Pharmacology. Professor Gross was presented with a plaque designating him as Honorary President of the South Dakota Pharmaceutical Association.

AN OLDTIMER

Andrew Botlolf "Cap" Holm died April 10, 1964, in Brookings, South Dakota; aged 95 years.

Born November 28, 1869, in Norway, Holm received the B.S. degree in Mechanical Arts and the Pharmaceutical Graduate degree in 1906 from South Dakota State University. He leaves no known living relatives.

DR. BRUNO ACCEPTS POSITION AT SQUIBB

Dr. Gerald Bruno, assistant professor of pharmaceutical chemistry at South Dakota State University, has resigned from this position as of July 1 and will be employed as a medical writer at the E. R. Squibb Laboratories at New Brunswick, New Jersey. Dr. Bruno was co-investigator in a federally supported research project relative to the influence of drugs on dental caries. He also was in charge of the bionucleonics laboratories at the College of Pharmacy.

QUININE ALLERGY

If you are allergic to quinine, better avoid gin and tonic this summer, advises the University of Rochester Department of Pharmacology, internationally-known center for research on toxicology of products commonly used in homes and on farms.

Even the relatively small amount of quinine used in popular brands of tonic can cause adverse reactions among persons allergic to quinine, say the University experts. Reactions may range from dizziness, nausea, and temporary impairment of vision to severe skin eruptions.

PROFESSOR ESTABLISHES SCHOLARSHIP

Kenneth Redman, professor and head of the Pharmacognosy Department at South Dakota State University, has established an annual scholarship in the amount of $198 to be known as the "Kenneth Redman Scholarship in Pharmacy." The scholarship will be administered under the Greater State Fund. The Scholarship Committee of the College of Pharmacy will select the winner of the scholarship. This scholarship is greatly appreciated and it is hoped that others will follow his example by either establishing a scholarship or making a donation to the Scholarship Fund. Many worthy students apply for scholarships and have to be turned down because of lack of funds.

BOARD OF PHARMACY HONORS PROFESSOR EIDSMOE

Clark T. Eidsmoe, professor emeritus of pharmacy at South Dakota State University, and the other members of the pharmacy faculty were guests of the members of the South Dakota Board of Pharmacy at a dinner at the Town Club in Brook-

ings on June 9. The dinner was held in honor of Professor Eidsmoe who retired this spring.

Roger Eastman, on behalf of the members of the Board, presented Professor Eidsmoe with a set of Black Hills gold cuff links and tie clasp for his contribution to the profession of pharmacy in South Dakota.

NEWS ITEMS FROM THE ALLIED DRUG TRAVELERS

Annual Meeting: The Allied Drug Travelers held their annual meeting and election of officers during the South Dakota Pharmaceutical Association Convention at Mitchell, South Dakota, May 18. The meeting was called to order by **Don Alfred,** president, at 10:00 a.m. in the Prairie Room at the Lawler Hotel. **James Drey,** secretary, read the minutes of the previous quarterly meeting. **Clarence Barr** read the financial report. Members voted to accept the minutes and financial report as read.

The executive board proposed an addition to the by-laws. The proposed by-law was that in case an officer resigns, or leaves the state temporarily or permanently, the secretary will take over that office until an election can be held or the duly elected officer returns.

The secretary gave a report on the results of the "Las Vegas Night" held April 24. Revenue from this function netted the Travelers $130 after all expenses.

Election of officers was next on the agenda. The nominating committee was composed of **Phil Sabag, Cliff Sumption,** and **John Hamilton. Don Dravland** was elected president, **Warner Kroona** was elected 1st vice president, and **Merlyn Albaugh** was elected 2nd vice president. **Jim Drey** and **Clarence Barr** were re-elected to secretary and treasurer respectively. **James Bachand** was elected to the Board of Directors for the western region. **Don Alfred,** as past president, is automatically a member of the Board. Members remaining on the Board are **Phil Sabag** and **Cliff Sumption.**

The membership voted to give **James Slaby** and **John Hamilton** life memberships in the Allied Drug Travelers.

The Award of Merit, for outstanding service to the Drug Travelers for the previous year, was given to **Jim Drey.**

It was decided, upon vote of the general membership, to award a scholarship to the College of Pharmacy in the amount of $250. It was also decided to make this an annual event.

The new officers were installed and the meeting was adjourned.

Drug Travelers Night: From all reports, the Drug Travelers party was an outstanding success. There were 250 pharmacists, Travelers, and their wives in attendance. Those attending said that the food was excellent and that they had a very nice time.

The scholarship to the College of Pharmacy was awarded to **Miss Sharon Whiting** of Dallas, South Dakota.

Financially speaking, it cost the Travelers approximately $1,179 to put on "Drug Travelers Night" at the Convention. This includes food, drinks, music, and the scholarship.

The Travelers wish to extend a vote of thanks and appreciation to **Elmer Riess** and the **Dean Rubber Company** for participating in "Drug Travelers Night." The Mitchell retail pharmacists cooperated in every possible way to help the Travelers make this an outstanding event. The executive board wishes to thank all the Travelers and pharmacists who worked to make this event such a success.

FRATERNITY HONORS PROFESSOR EIDSMOE

The Gamma Kappa Chapter of Kappa Psi Pharmaceutical Fraternity held its May meeting in honor of **Professor Clark T. Eidsmoe.** Professor Eidsmoe retired this spring from the position of professor and head of pharmacy at South Dakota State University. He is a charter member of the Gamma Kappa Chapter.

James Nelson, chapter regent, presented Professor Eidsmoe with an engraved plaque, in appreciation for his efforts in educating future pharmacists and in stimulating in them the sense of responsibility, integrity, and pride.

Professor Eidsmoe accepted the plaque and expressed his thanks, not only for the gift, but also for "the friendship which has always been shown to him by the pharmacy students at South Dakota State University."

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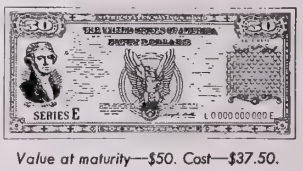
Mother may have forgotten to mention it, but there are some important things you should know about U.S. Savings Bonds when you get married.

1. Your Savings Bonds should be reissued in your married name. They'll continue to earn interest as they are, but reissuing them now will help avoid problems when you want to cash them in some day.

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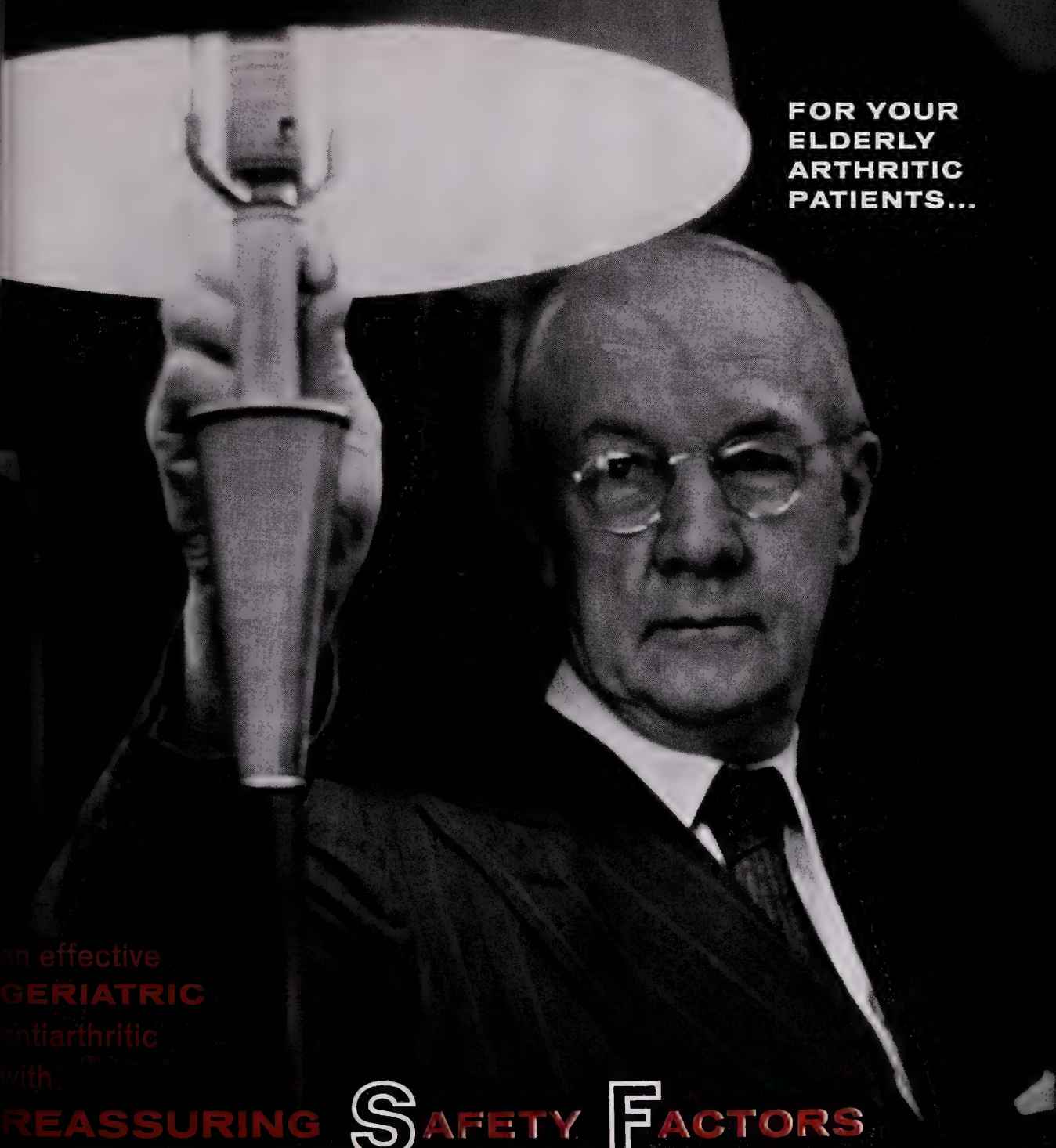


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1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. *J. Amer. Geriat. Soc.* 11:945 (Oct.) 1963.
2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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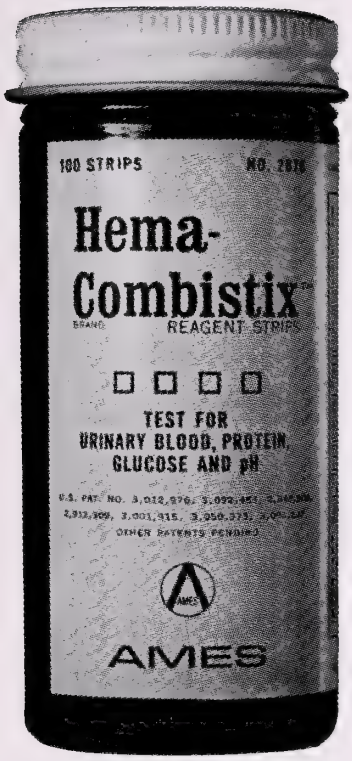
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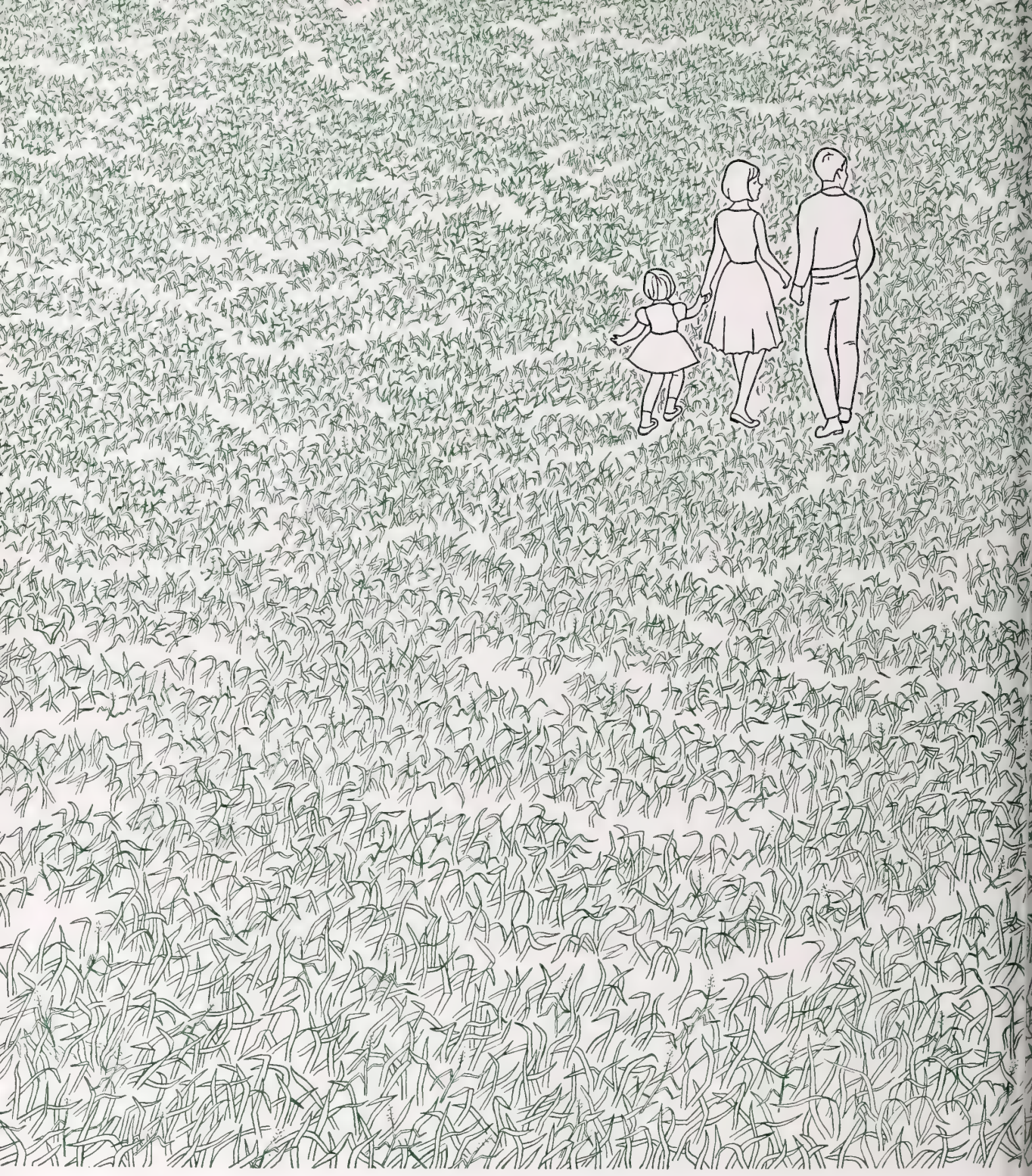
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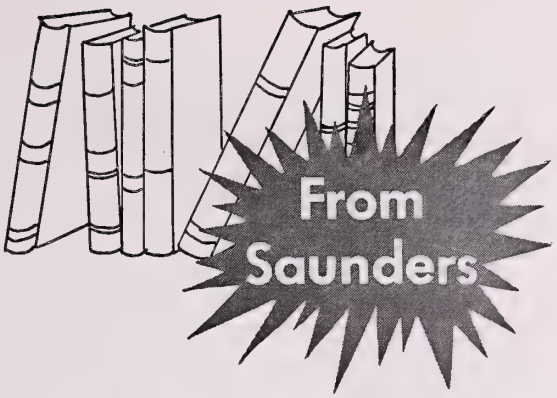


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Volume XVII **August, 1964** **Number 8**

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

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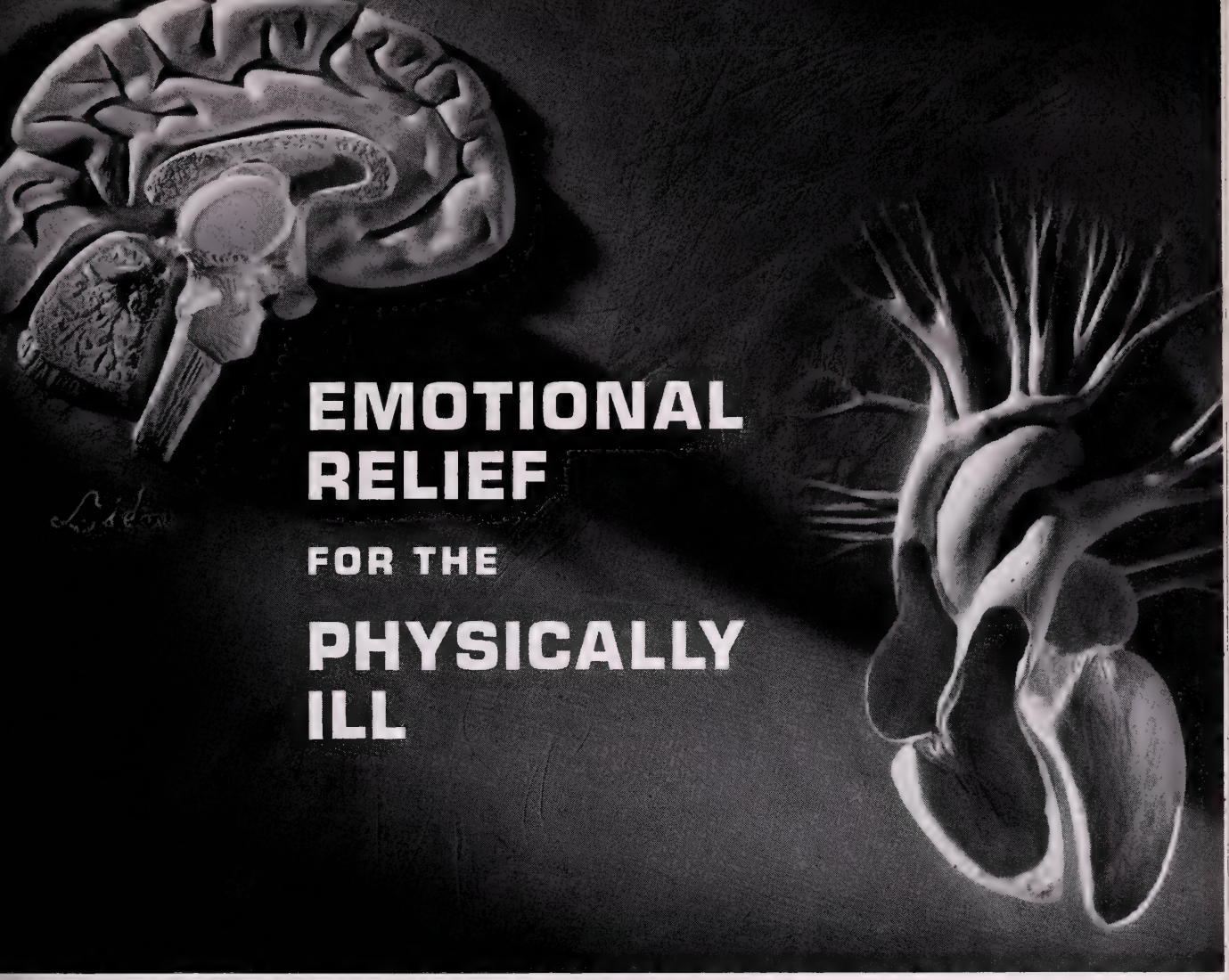
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CONTRAINDICATIONS: Hypersensitivity to any ingredient.

As with any drug containing prednisone, Arthralgen-PR is contraindicated, or should be administered only with care, to patients with peptic ulcer, tuberculosis, nephritis, diabetes mellitus, acute psychoses, Cushing's syndrome (or Cushing's disease), overwhelming spreading (systemic) infection, or predisposition to thrombophlebitis.

Arthralgen-PR is generally contraindicated in patients with uremia and viral infections, including poliomyelitis, vaccinia, ocular herpes simplex, and fungus infections of the eye. It is also contraindicated in patients with chicken pox or susceptible persons exposed to it.

SUPPLY: Arthralgen (white, scored) and Arthralgen-PR (yellow, scored) tablets are available in bottles of 100 and 500.

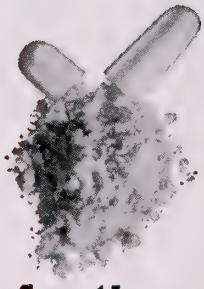
*Cohen, et al: J.A.M.A., 165:225, 1957.

A. H. ROBINS CO., INC.
RICHMOND, VIRGINIA

why does 150 mg.



do more than 250 mg.



of other tetracyclines?

Because it has up to 3½ times the *in vitro* antibacterial activity[1]...combined with lower rate of decay in serum, slower renal clearance...a favorable depot effect, resulting from protein binding...all providing rapid, higher and sustained *in vivo* activity with as much as 2 days' extra activity.

DECLOMYCIN®

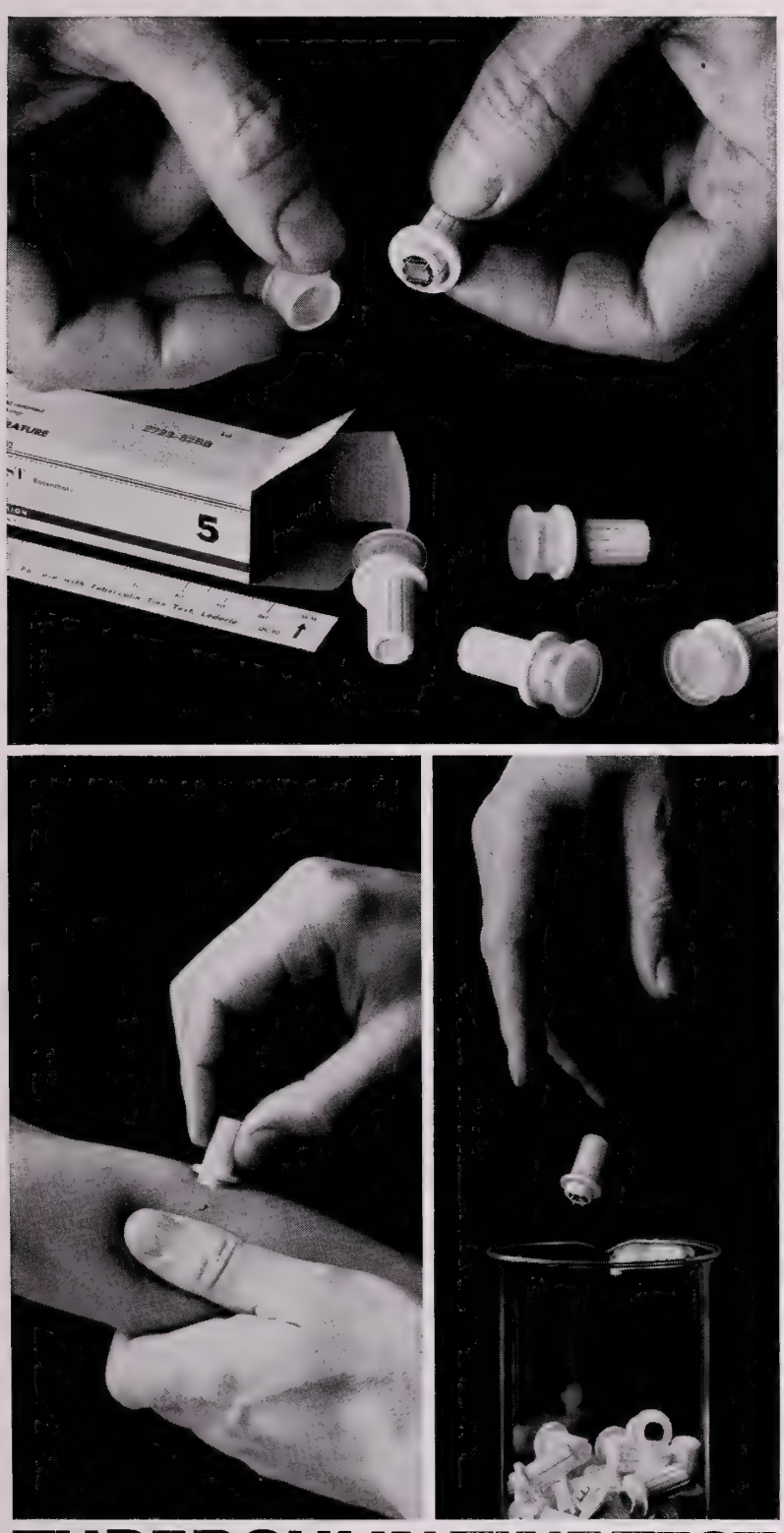
DEMETHYLCHLORTETRACYCLINE HCl

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive. **Side Effects** typical of tetracyclines which may occur: glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis, dermatitis, overgrowth of nonsusceptible organisms. Also: photodynamic reaction (making avoidance of direct sunlight advisable) and, very rarely, anaphylactoid reaction. Reduce dosage in impaired renal function. The possibility of tooth discoloration during development should be considered in administering any tetracycline in the last trimester of pregnancy, in the neonatal period, and in early childhood. *Capsules,* 150 mg. and 75 mg. of demethylchlortetracycline HCl. *Average Adult Daily Dosage:* 150 mg. q.i.d. or 300 mg. b.i.d. 1. Sweeney, W. M.; Dornbush, A. C., and Hardy, S. M.: Demethylchlortetracycline and Tetracycline Compared. Relative *in vitro* Activity and Comparative Serum Concentrations During 7 Days of Continuous Therapy. *Amer. J. Med. Sci.* 243:296 (Mar.) 1962.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

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TAKE 5

...and find that a TB screening test has never been quite so easy

SWAB THE ARM— UNCAP A TINE TEST— PRESS—DISCARD THAT'S ALL THERE IS TO IT.

Comparable to the Mantoux in accuracy and sensitivity, the TUBERCULIN, TINE TEST is now available in plastic-capped units uniquely suited to general practice needs. They are so simple to use that you can test every patient with ease. Since it requires no refrigeration, the new package of five Tine Test units can stand on any convenient table in your examining rooms, ready for routine use. Side effects are possible but very rare: vesiculation, ulceration or necrosis at test site. Contraindications, none; but use with caution in active tuberculosis.

available as the new individually-capped unit, boxes of 5, or in cartons of 25

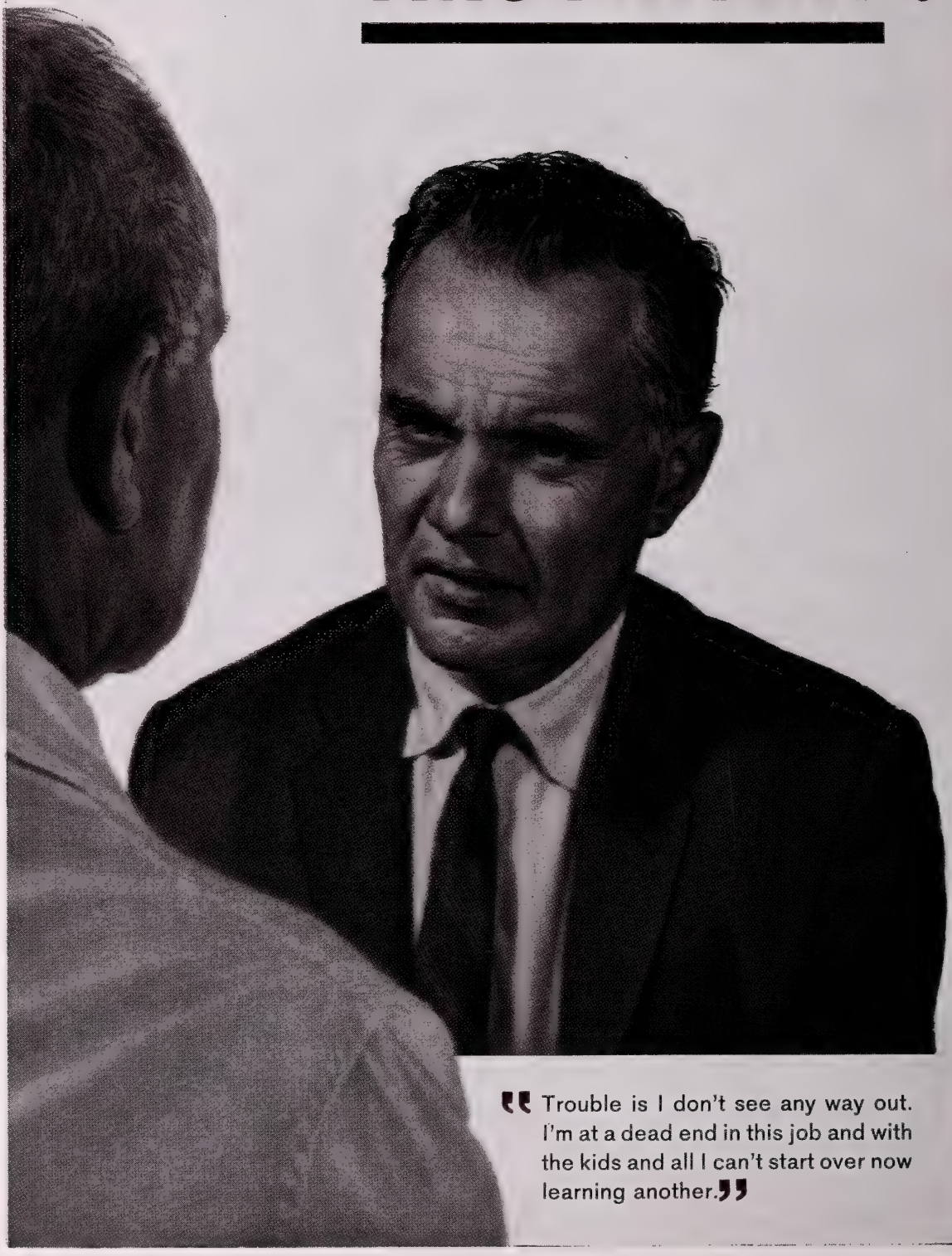
TUBERCULIN, TINE TEST

(Rosenthal) Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N.Y. 7899-4

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RECOGNIZE THIS PATIENT?



"Trouble is I don't see any way out. I'm at a dead end in this job and with the kids and all I can't start over now learning another."

When you recognize depression and anxiety traceable to an emotionally charged situation with no somatic disorder

—*start the patient on 'Deprol'*

Typical situations in which 'Deprol' is indicated:

marital or other family problems ■ death of a loved one ■ financial worries ■ fear of cancer, heart disease or other life-threatening illness ■ pre- and post-operative apprehensions ■ retirement problems, and many other stressful situations which cause the patient to feel a sense of loss, guilt or unworthiness

Advantages of 'Deprol'

1. By relieving both depression and anxiety, 'Deprol' lifts the mood of the depressed patient without the agitation and "jitters" that often accompany "energizer" therapy alone.
2. 'Deprol' restores normal sleep, relaxes physical tensions, and improves appetite.
3. 'Deprol' acts rapidly—patients often respond within a week or two.
4. 'Deprol' is relatively nontoxic and free of side effects.
5. When depression and anxiety accompany physical illness, 'Deprol' is compatible with drugs used to treat these organic conditions.

Deprol®

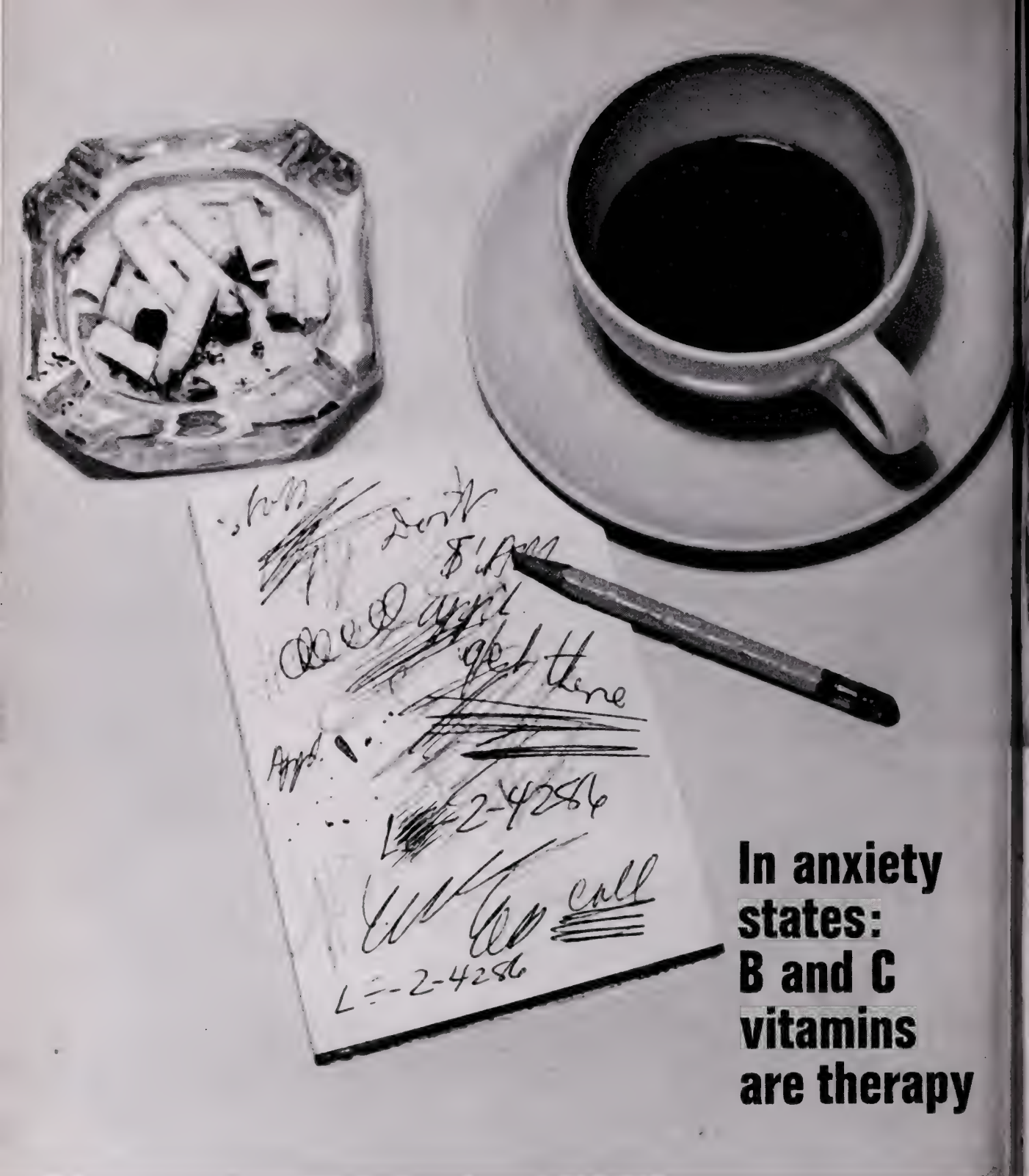
meprobamate 400 mg. + benactyzine hydrochloride 1 mg.

Side effects: Slight drowsiness and, rarely, allergic or idiosyncratic reactions, due to meprobamate, and occasional dizziness or feeling of depersonalization in higher dosage, due to benactyzine, may occur. **Contraindications:** Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use of meprobamate or meprobamate-containing drugs. **Precautions:** Should administration of meprobamate cause drowsiness, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Although suicides with 'Deprol' have not been reported, prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage of meprobamate may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Even though it has not been reported with 'Deprol', consider the possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage. *Complete product information available in the product package, and to physicians on request.*

Usual adult dosage: 1 tablet t.i.d. or q.i.d. May be increased gradually, as needed, to 6 tablets daily. With establishment of relief, may be gradually reduced to maintenance levels. **Supplied:** Light-pink, scored tablets Bottles of 50.

WALLACE LABORATORIES / *Cranbury, N. J.*

CD-1983



In anxiety states: B and C vitamins are therapy

Stress formula vitamins are an important supportive measure in maintaining the nutritional status of the emotionally disturbed patient. With STRESSCAPS, B and C vitamins are present in therapeutic amounts to meet increased metabolic demands. Patients with anxiety, and many others undergoing physiologic stress, may benefit from vitamin therapy with STRESSCAPS.

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Niacinamide	100 mg
Vitamin C (Ascorbic Acid)	300 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

STRESSCAPS®

Stress Formula Vitamins Lederle

RX PROFESSIONAL RECOMMENDATION ONLY

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8241-4



In Sprains, Strains and Muscle Spasm, 'Soma' Compound

numbs the pain...not the patient

A potent analgesic and a superior muscle relaxant

1. A sprain or fracture is not a big clinical problem—but it does hurt. And if there is housework to do and kids to mind, the patient needs something to numb the pain.

2. A.P.C. compounds have limited usefulness; and the patient can buy them without your prescription. Unfortunately, most of them are too mild to be effective for sprains—and more potent products too often make the patient feel 'dopey'.

3. 'Soma' Compound is ideal in these cases. Since it contains both 'Soma' (carisoprodol) and acetophenetidin it is both a potent analgesic and a superior muscle relaxant; it also contains caffeine to offset any drowsiness *("numbs the pain...not the patient")*.

4. Why not try 'Soma' Compound? Dosage is 1 or 2 tablets q.i.d. For more severe pain, try 'Soma' Compound + Codeine. Dosage: 1 or 2 tablets q.i.d.

5. Hypersensitivity to carisoprodol may occur rarely. Codeine may produce addiction, nausea, vomiting, constipation or miosis.

Soma® Compound

carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg.

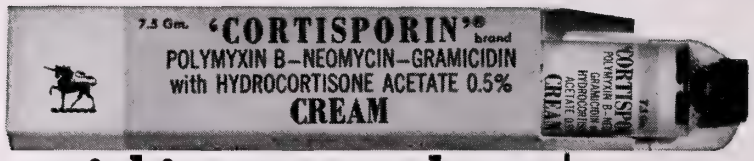
Soma® Compound + Codeine

carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg., codeine phosphate 16 mg. (Warning—may be habit forming.)

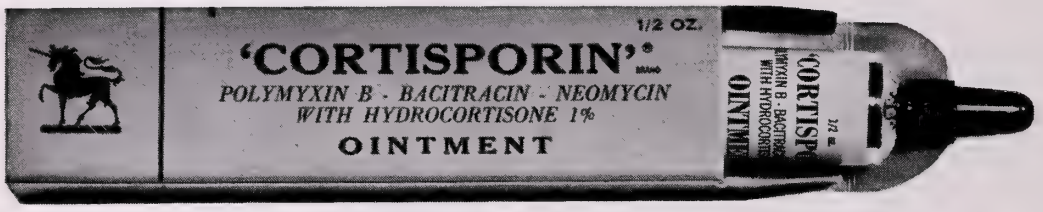
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CSO-9193

CHOOSE THE PRODUCT TO FIT THE NEED



a new vanishing cream base



a special low melting point base

anti-inflammatory
bactericidal
antipruritic
rarely sensitizing

CREAM—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 10,000 Units; Neomycin Sulfate (equivalent to 3.5 mg. Neomycin Base) 5.0 mg.; Gramicidin 0.25 mg.; Hydrocortisone Acetate 5.0 mg. (0.5%).

In a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, distilled water, and 0.25% methylparaben as preservative.

Available: In tubes of 7.5 Grams.

OINTMENT—*Ingredients:* Each gram contains 'Aerosporin'® brand Polymyxin B* Sulfate 5,000 Units; Zinc Bacitracin 400 Units; Neomycin Sulfate 5 mg. (equivalent to 3.5 mg. Neomycin Base); Hydrocortisone 10 mg. (1%).

In a special white petrolatum base.

Available: In tubes of ½ oz. and ⅛ oz.

*U.S. Patent Nos. 2,565,057–2,695,261

Indications: Wherever inflammation or infection occurs and is accessible for topical therapy.

Contraindications: These drugs are contraindicated in tuberculous, fungal or viral lesions (herpes simplex, vaccinia and varicella).

Caution: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.



one of the fundamental drugs in medicine

Smith Kline & French Laboratories

SK&F



thrown for a loss...

Keeping flies out of pharmaceutical production areas is important, yet entrances must accommodate heavy traffic of people and materials. In fact, at Eli Lilly and Company, the entrances to certain production facilities where traffic is heaviest have no screens or doors. □ This makes it look easy for flies to get in. But let one try it and he is literally picked up by a fast-moving blast of air and thrown for a loss—back outside. This "curtain of air," moving down and out from the top of the open doorway, bars the entrance and keeps flies out . . . still another step demonstrating the care that goes into the finished product.

Eli Lilly and Company • Indianapolis 6, Indiana, U.S.A.

Lilly

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Transactions of the South Dakota State Medical Association Eighty-third Annual Session May 30-31, June 1-2, 1964

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Robert Giebink, M.D. ..... Sioux Falls

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Third District (Brookings-Madison)
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Tenth District (Rosebud)
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Eleventh District (Northwest)
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Paul Hohm, M.D.
P. P. Brogdon, M.D.
A. P. Reding, M.D.
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Robert Giebink, M.D.

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7. R. J. Foley, M.D., 2 years
8. R. J. Bareis, M.D., 2 years
9. C. F. Binder, M.D., 1 year
10. H. R. Wold, M.D., 1 year
11. E. F. Kalda, M.D., 1 year
12. Bill Church, M.D., 1 year

BUDGET AND AUDIT COMMITTEE MEETING

Saturday, May 30, 1964
Sheraton Cataract Hotel, Sioux Falls, S. D.

The meeting was called to order at 1:00 P.M. in Room 300 of the Sheraton Cataract Hotel. Present were Drs. A. P. Reding and A. K. Myrabo. Also attending the meeting were Dr. Robert Hayes and Mr. Richard Erickson.

The Committee discussed the audit prepared by the Certified Public Accountant of the Association accounts. Dr. Myrabo moved that the Committee approve the audit as submitted. The motion was seconded by Dr. Reding and carried.

The Committee then discussed the budget which was submitted in January. Two minor changes were submitted as follows:

1. Increase the item of Salaries, Other, to $11,560.00.
2. Decrease the item of Reserve to $2,880.00.

Dr. Reding moved that these changes be recommended to the Council for approval. The motion was seconded by Dr. Myrabo and carried.

The meeting adjourned at 2:00 P.M.

1964-1965 BUDGET

ESTIMATED INCOME — GENERAL FUND

State Dues	$43,000.00
Annual Meeting	9,500.00
Interest	400.00
Miscellaneous	500.00
Salary reimbursement	400.00
Car reimbursement	690.00
Refunds	500.00
Kathryn Kuehn Fund	500.00
	$55,490.00

ESTIMATED EXPENSES — GENERAL FUND

Executive Secretary, Salary	$ 4,800.00
Salary, Other	11,560.00
Social Security	400.00
Legal and Audit	650.00
Telephone & Telegraph	1,500.00
Office Supplies & Equip.	2,400.00
Dues and Subscriptions	1,500.00
Officers Travel	2,200.00
Annual Meeting	8,000.00
Public Relations	4,000.00
Rent	2,400.00
Miscellaneous	400.00
Unemployment taxes	
Postage	1,500.00
Legislative Expense	2,400.00
Benevolent Fund	400.00
Medical School Endowment	200.00
Ladies Auxiliary	1,000.00
Kathryn Kuehn Fund	500.00
Car Expenses	1,800.00
Staff Travel	4,000.00
Clinical Pathology	1,000.00
Reserve	2,880.00
	$55,490.00

JOURNAL—INCOME

Advertising	$20,000.00
Subscriptions	1,200.00
Miscellaneous	750.00
Refunds	100.00
	$22,050.00

JOURNAL—EXPENSES

Salary, Editors	$ 1,440.00
Legal and Audit	50.00
Salary, Staff	120.00
Social Security	6.00
Rent	900.00
Salary, Business Manager	
Telephone and Telegraph	175.00
Office Supplies	17,000.00
Travel Expense	350.00
Balance to Surplus	809.00
Due Midwest-Beach from 1963-1964	1,000.00
Postage	200.00
	$22,050.00

GROUP LIFE INSURANCE INCOME

Premiums	$30,000.00

EXPENSES

Payments to Insurance Company	$29,100.00
Postage	50.00
Legal & Audit	50.00
Supplies	50.00
Balance to Surplus	750.00
	$30,000.00

BUILDING FUND—INCOME

Blue Shield Rent	$ 4,800.00
Association Rent	2,400.00
Journal Rent	900.00
Board of Examiners Rent	300.00
Nurses Association Rent	900.00
OAA Rent	2,250.00
	$11,550.00

EXPENSES

Janitor and Repair	$ 1,400.00
Utilities	1,600.00
Interest	2,600.00
Repayment of Loans	2,450.00
Taxes & Insurance	2,000.00
Legal and Audit	1,500.00
	$11,550.00

FIRST COUNCIL MEETING

Sheraton Cataract Hotel
May 30, 1964
Sioux Falls, South Dakota

The first Council meeting of the 83rd annual meeting was called to order by the Chairman, Dr. E. J. Perry at 3:00 P.M.

The following members were present for roll call: Drs. R. H. Hayes, James P. Steele, Paul Hohm, A. P. Reding, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, F. D. Leigh, P. P. Brogdon, E. T. Lietzke, T. H. Sattler, J. T. Elston, E. P. Sweet, H. E. Lowe, and E. A. Johnson. Also present were Mr. Charles Johnson of the American Medical Association, Dr. G. J. Van Heuvelen and Dr. Robert H. Quinn.

Dr. Tank moved that the reading of the minutes of the last meeting be dispensed with inasmuch as they have been published in the **South Dakota Journal of Medicine and Pharmacy.** The motion was seconded by Dr. Elston and carried.

A report on the status of the tax exemption proceedings concerning the Medical Association headquarters building was given by Mr. Erickson.

The report of the Public Health Committee was read.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

The Resolution, presented by the South Dakota Society of Pathologists to the Council on January 18, 1964, was given to the Committee on Public Health for consideration.

The magnitude of the resolution necessitated considerable exchange of communications, which have not been completed; thus a satisfactory report cannot be prepared in time for the State Medical Association proceedings.

We recommend that the current Committee on Public Health be permitted to finish this matter, although a new committee will assume other duties when appointed.

Respectfully submitted,
COMMITTEE ON PUBLIC HEALTH
N. E. Wessman, M.D., Chairman
Wm. E. Jones, M.D.
Walter H. Patt, M.D.

Dr. Elston moved that the report be accepted. The motion was seconded by Dr. Hohm and carried.

The Council then considered the criteria which has been set up for the Kathryn Kuehn Memorial Fund. After discussion, it was determined to take no action on this matter until further information is obtained from the Association attorney and presented to the Council in September.

The report of the Committee on Legislation was read by Dr. Perry.

RECOMMENDATIONS TO THE COUNCIL FROM THE COMMITTEE ON LEGISLATION

I. Insanity Hearing Form

The Committee on Legislation recommends to the Council that appropriate steps be taken to have a bill drawn and presented to the State Legislature initiating the use of a new Insanity Hearing Form. (A copy of the proposed form is attached for your information).

II. Workman's Compensation

The Committee on Legislation recommends to the Council that steps be taken to change the law so the Industrial Commissioner becomes a separate department of State government; that this position be an appointive one for a term of six years, with separate staff and personnel, independent of the Attorney General's office.

Report of Physician 30.0107B

STATE OF SOUTH DAKOTA, }
County of _____ }

IN THE MATTER OF THE MENTAL ILLNESS OF _____

TO THE BOARD OF COMMISSIONERS OF MENTAL ILLNESS IN AND FOR SAID COUNTY:

Pursuant to your order of appointment issued to me, bearing date the _____ day of _____, 19____, I have this day seen _____ the person named in said order as mentally ill, and have made a careful personal examination in _____ case as required.

As a result of such examination, I hereby certify that, according to my judgment, said person is mentally ill, and a fit subject for custody and treatment in the Hospital for the Mentally Ill. I also certify that I have stated correctly the answers I have obtained, from the best sources within my knowledge, and from my own observation, to the interrogations furnished, which interrogations and answers hereby accompany this certificate, and are given below.

Dated _____ this _____ day of _____, 19____

_____ M.D.

STATEMENT OF FINDINGS AND HISTORY

A. HISTORY

Informant
Name _____
Address _____
Relationship _____

Patient
Full Name _____
Born _____
(Place) (Date)
Sex _____ Race _____ Education _____
Occupation _____ Religion _____
Social Security No. _____
How long in South Dakota _____
Patient's economic status _____
Marital status:
Single _____ Married _____ Widowed _____
Divorced _____ Separated _____ Unknown _____

Wife/Husband
Name _____
Address _____

Children:
Name _____ Address _____
Name _____ Address _____
Name _____ Address _____
Name _____ Address _____
Name _____ Address _____

Father
Full Name _____
Address _____

Mother
Full Name _____
(Maiden Name)
Address _____

Legally responsible relative or guardian:
Full Name _____
Address _____
Relationship _____
Military Service: _____
(Yes) (No)
Branch _____
Serial No. _____
Previous treatment for mental illness: Give dates and places of treatment, dates of previous hospitalization, etc.

_____
_____
_____
_____

B. EXAMINATION
Findings:
Physical condition, including any special test results:

_____
_____
_____
_____
_____
_____

Present mental condition and reasons for hospitalization:

_____
_____
_____
_____
_____
_____

Is this patient considered suicidal or homocidal? _____
In your opinion is protective custody necessary if patient refuses to accept hospitalization voluntarily? _____
Diagnostic Impression: _____
_____
_____
_____ M.D.

Dr. Brogdon moved that the Council accept the first section of the report. The motion was seconded by Dr. Sattler and carried. The Council then discussed the second recommendation of the Committee on Legislation concerning the Industrial Commissioner's Office. Dr. Hohm moved that a letter be directed to the proper authorities in Pierre, requesting that a study be made of the Industrial Commissioner's Office by the Legislative Research Council. The motion was seconded by Dr. Sweet and carried.

Dr. Reding read the report of the Budget and Audit Committee. Dr. Reding moved that a letter be written to Dr. R. E. VanDemark, editor of the Journal, expressing the appreciation of the Council for his contribution to the Journal. The motion was seconded by Dr. Davidson and carried. Dr. Reding moved that the two changes in the proposed budget be accepted. The motion was seconded by Dr. Tank and carried. Dr. Reding moved that the Audit of the Association accounts be accepted. The motion was seconded by Dr. Sattler and carried.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION CONSOLIDATED STATEMENT OF OPERATIONS YEAR ENDED APRIL 30, 1964

Receipts:		
State dues	$40,025.00	
Annual meeting	9,334.50	
Miscellaneous income	1,821.38	
Amer. Med. Asso. dues	16,257.50	
Interest earned	489.18	
Salary reimbursement to S.D.S.M.A.	349.50	
Car expense reimbursement — Blue Shield	690.00	
Refunds	1,286.28	
Blue Cross-Blue Shield-Drs. State Wide Group	22,562.06	
Advertising	19,064.01	
Subscriptions	984.00	
Receipts	325.20	
Rent	10,050.00	
Group insurance — dividend	4,986.35	
Insurance premiums collected	36,099.40	
Total receipts		$164,324.36
Expenses:		
Salary—executive	$ 9,787.50	
Salary and commission — others	11,963.27	
Social security tax expense	499.48	
Legal and audit	2,549.16	
Rent and maintenance	2,632.25	
Telephone and telegraph	1,522.93	
Operating supplies	21,895.20	
Dues and subscriptions	1,658.96	
Travel expense	7,794.06	
Annual meeting	9,913.61	
Public relations	3,637.11	
Taxes, licenses, postage and miscellaneous	2,844.11	
American Medical Association dues	16,167.50	
Legislative expense	833.37	
Benevolent Fund	400.00	
Clinical Pathology	639.97	
Ladies Auxiliary expense	634.04	
Blue Cross-Blue Shield-Drs. State Wide group	22,562.06	
Depreciation expense	5,885.33	
Interest expense	2,951.01	
Utilities, repairs and maintenance	3,032.89	
Insurance premiums remitted	31,717.45	
Refunds	64.25	
Total expenses		$161,585.51
Net Profit to Net Worth		$ 2,738.85

The Council considered the request of the South Dakota Taxpayers Association to endorse the proposed amendment to return to biennial legislative sessions. Dr. Steele moved that the Council take no action on this proposal. The motion was seconded by Dr. Brogdon and carried.

Mr. Erickson discussed the request of Capitol Life Insurance Company for endorsement of their life insurance plan to be sold in conjunction with the Medical Association Blue Cross-Blue Shield group plan in South Dakota. Dr. Stransky moved that the Council not endorse the program of the Capitol Life Insurance Company. The motion was seconded by Dr. Davidson and carried.

The Council then considered the proposal from the Harold Diers Company for endorsement of their plan set up for operation under the Keogh Bill. Dr. Stransky moved that the Council not endorse the proposal, but that the insurance company be informed that they are free to solicit the physicians in the State on an individual basis. The motion was seconded by Dr. Lowe and carried.

Dr. Hayes spoke on the proposal submitted by the South Dakota Hospital and Home Association to name a tower the Foster Memorial Tower in appreciation for the work done by John C. Foster for this Association while he was in South Dakota. The proposal asked that the State Medical Association seek donations from the physicians for this tower. Dr. Steele moved that the executive secretary of the South Dakota Hospital and Home Association be informed that the Council took no action

on the proposal; that we appreciate the sentiments involved, but the Council cannot solicit funds from the membership of the Association for their home. The motion was seconded by Dr. Hohm and carried.

The Council considered recommendations to be made to the Governor for appointment of a physician to the South Dakota Board of Medical and Osteopathic Examiners to fill the term of Dr. G. Robert Bartron, M.D. whose term will expire on June 30, 1964. Dr. Brogdon moved that the Council recommend G. Robert Bartron, M.D., Magni Davidson, M.D., and Robert H. Hayes, M.D. to the Governor for consideration. The motion was seconded by Dr. Lietzke and carried.

The next item of business was the problem of ambulance services in small communities in the State. Dr. Leigh moved that the communities involved be informed that this situation is a local problem and should be solved on a local level. The motion was seconded by Dr. Tank and carried. It was suggested that if any questions are received on this matter, that the doctors in Huron or Marion be consulted on how this matter was handled in their areas i.e. civil defense workers, Red Cross, County Commissioners, and fire departments.

The Council considered the Driver Examination forms currently in use in South Dakota. Dr. Perry moved that the matter be referred to the Traffic Safety Committee and that they be instructed to obtain criteria from the American Medical Association on minimum standards for study and that recommendations be submitted to the Council. The motion was seconded by Dr. Steele, and carried.

Dr. Tank moved that the executive office establish a fifty year certificate to be presented to all physicians who have received their fifty year pins in the past and who will receive them in the future. The motion was seconded by Dr. Steele and carried.

The Council considered the request for endorsement of a TV series by the Murray Productions Company. Dr. Steele moved that this matter be referred to the Committee on Radio and TV, that they be instructed to review the films and present their recommendations to the Council after this has been completed. The motion was seconded by Dr. Sattler and carried.

Dr. Elston reviewed the matter of the TB Control Program. Dr. Van Heuvelen spoke briefly on the administration of this Program. Dr. Elston moved that the executive secretary send a letter to the president of each District Medical Society explaining how this Program is set up; that Dr. Van Heuvelen assist in setting up this letter of information. The motion was seconded by Dr. Lowe and carried.

Dr. Hohm moved that the Fall Council meeting be scheduled for September 13, in Pierre, South Dakota, beginning with a luncheon at 12:00 Noon. The motion was seconded by Dr. Hayes and carried.

Dr. Sattler moved that the South Dakota State Medical Association donate $75.00 to the National Society for Medical Research. The motion was seconded by Dr. Hayes and carried.

The proposed survey of utilization of medical specialties was considered. Dr. Stransky moved that the South Dakota State Medical Association executive office do the mailing for the State Department of Health, receive the replies of the survey and forward them to Pierre for compilation. The motion was seconded by Dr. Tank and carried.

Dr. Sattler spoke on the advisability of the State Medical Association preparing pamphlets on various public health diseases for distribution in the State. Dr. Leigh moved that the Public Health Committee survey the literature available on various diseases and recommend to the Council those they feel would be of advantage to distribute in South Dakota. The motion was seconded by Dr. Elston and carried.

Dr. Stransky moved that in the event of the disability of the executive secretary, he should receive full salary for three months, 75% of his salary for the next three months; at the end of six months a determination should be made by the Council if the disability is permanent. The motion was seconded by Dr. Hohm and carried.

Dr. Steele moved that the executive secretary and the Association attorney prepare a contract for consideration at the January Council meeting. The motion was seconded by Dr. Elston and carried.

Mr. Charles Johnson spoke to the Council on the activities of the American Medical Association in the legislative field.

Dr. Stransky moved that the matter of the law in South Dakota concerning attempted suicides be referred to the Committee on Legislation for study and recommendation. The motion was seconded by Dr. Hohm and carried.

Dr. Stransky discussed the matter of a law concerning administration of inhalation therapy which may be introduced at the next legislative session. Dr. Stransky moved that this matter be referred to the Committee on Legislation for consideration and recommendation if such a law is introduced. The motion was seconded by Dr. Leigh and carried.

Dr. Bill Church of Sioux Falls spoke to the Council on the activities of SoDaPac in South Dakota.

The meeting adjourned on motion at 6:00 P.M.

MINUTES OF THE SECOND COUNCIL MEETING

June 1, 1964

Westward Ho Country Club
Sioux Falls, South Dakota
10:00 P.M.

The meeting was called to order by the Chairman Dr. E. J. Perry. Present for roll call were the following members: Drs. James P. Steele, Paul Hohm, A. P. Reding, R. H. Quinn, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Fred Leigh, Preston Brogdon, E. T. Lietzke, T. H. Sattler, E. P. Sweet, H. E. Lowe.

Dr. Brogdon moved that Dr. Jack T. Berry of Mitchell be appointed to serve as Councilor from the Sixth District Medical Society until the next annual meeting of the House of Delegates inasmuch as this position is vacant due to Dr. Brogdon's election to the vice-presidency. The motion was seconded by Dr. Leigh and carried.

Dr. Stransky presented the request of the St. Paul Fire and Marine Insurance Company for special endorsement of their insurance program. Dr. Sattler moved that no special endorsement be given and to indicate to the insurance company that they are free to pursue their sales program in South Dakota on an individual basis. The motion was seconded by Dr. Askwig and carried.

Dr. Steele moved that inasmuch as under the amended Bylaws there will be six Commission chairmen, they be invited to attend all Council meetings in order to be kept informed of the current status of affairs. The motion was seconded by Dr. Brogdon and carried.

Dr. Lietzke nominated Dr. A. P. Reding to serve another term as Secretary-Treasurer of the Association. Dr. Hohm moved that nominations be closed and that a unanimous ballot be cast for Dr. Reding. The motion was seconded by Dr. Tank and carried.

Dr. Tank nominated Dr. Harold Lowe to serve as Chairman of the Council for the coming year. Dr. Reding moved that nominations be closed and that a unanimous ballot be cast for Dr. Lowe. The motion was seconded by Dr. Sweet and carried.

Dr. Stransky moved that a letter of appreciation be sent to Dr. Perry for his last year's service as chairman of the Council. The motion was seconded by Dr. Hohm and carried.

The meeting adjourned at 10:30 P.M.

FIRST HOUSE OF DELEGATES MEETING
Saturday May 30, 1964 7:30 P.M.
Sheraton-Cataract Hotel, Sioux Falls, S. Dak.

The meeting was called to order by the President, Dr. Robert Hayes.

Present for roll call were Drs. Hayes, Steele, Hohm, Reding, Davidson, Perry, Stransky, Tank, Askwig, Leigh, Brogdon, Lietzke, Sattler, Sweet, Lowe, Johnson, Taylor, Vogele, Bartron, Tracy, Scheller, Anderson, Jahraus, Hanson, Mueller, Binder, Church, Gregg, Brzica, Ensberg, Myrabo, Knowles, Sanderson, Nelson, Swanson, Huet, Larson, Behan, Andre, Werthmann, and Studenberg. A quorum was declared present.

Dr. Tank was nominated for Speaker of the House in the absence of Dr. Giebink. Seconded by Dr. Reding. Dr. Steele moved that nominations cease and that a unanimous ballot be cast for Dr. Tank. The motion was seconded and carried.

Dr. Myrabo moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they had been published. The motion was seconded by Dr. Brzica, and carried.

Dr. Leigh discussed the results of the meeting held by the Committee on Revision of Committee Structure. Following the discussion, Dr. Stransky moved that the Amendments to the By-Laws be sent to the Reference Committee on Reports of Special Committees and Miscellaneous Business, and a report brought back to the Second House of Delegates meeting. Dr. Hohm seconded the motion, and it was carried.

Dr. Brogdon moved that the Speaker dispense with the reading of the reports of Officers and Councilors. Seconded by Dr. Perry. Motion carried.

Dr. Tank appointed the members of the various reference committees as follows:

Committee on Credentials
1. Dr. Magni Davidson, Chairman
2. Dr. D. L. Scheller
3. Dr. G. E. Tracy

Reference Committee on Reports of Officers and Councilors
1. Dr. Dorence Ensberg, Chairman
2. Dr. A. M. Semones
3. Dr. S. M. Brzica

Reference Committee on Standing Committees
1. Dr. Bill Church, Chairman
2. Dr. E. P. Sweet
3. Dr. E. A. Johnson

Committee on Resolutions and Memorials
1. Dr. E. T. Lietzke, Chairman
2. Dr. V. Janavs
3. Dr. H. Werthmann

Reference Committee on Special Committees
1. Dr. Fred Leigh, Chairman
2. Dr. E. J. Perry
3. Dr. R. J. Foley

The following resolutions were considered, and the following action taken.

RESOLUTION #1

The Committee on Immunization of the Seventh District Medical Society of the State of South Dakota, after due and careful consideration offers the following resolution to be placed before the members of the South Dakota Medical Association.

WHEREAS the Seventh District Medical Society of the State of South Dakota recognizes the fact that a great diversity of methods and timing of immunizations exists throughout this area, this lack of uniformity due to the constant changes in vaccines and immunization procedures,

THEREFORE BE IT RESOLVED that the South Dakota State Medical Association form a permanent committee to study and appraise standard immunization procedures and make periodic confirmations for changes as it sees appropriate to keep up with constant changes and improvements in vaccines and procedures. We offer the Seventh District Medical Society's report as an example for a current practice guide.

Respectfully submitted,
SEVENTH DISTRICT MEDICAL SOCIETY

CORRECTED REPORT

The 7th District Committee on Immunization Procedures offers the following schedule to be followed on all basic immunizations:

DPT — Start at 6 weeks to 2 months of age — 3 shots, preferably at monthly intervals.
Boosters at 15 - 18 months of age and q 3 - 4 years thereafter.

Smallpox vaccination — Start at 6 months to 1 year of age, preferably during the cool season.
Boosters — q 5 to 6 years.
Warning — Do not give if patient has active eczema, or if recent history of eczema in family or immediate contact area.

Polio — Trivalent — Start at 6 weeks or older — 2 doses at least 8 weeks apart.
Booster at 10 - 12 months of age.
If child 6 months or older at start of series, no booster recommended.
If monovalent polio preferred, give types 1, 3, 2 in that order at monthly intervals — start at 6 weeks of age or older.
Booster at 6 months + following last dose.
Recommend — A single Trivalent oral polio.
Booster for all those participating in the oral polio clinics who were under 18 months of age at the beginning of the series to be given at once.
If one did not finish the series, do so at once.
If there is doubt as to what type or types missed it is urged a series of Trivalent be completed as soon as possible.
Type I — September 1962; Type II — October 1962; Type III — May 1963.

Warning — do not give 2 live viruses at same time. Follow one by another by at least 1 month interval.
1. Rubeovax — measles
2. Sabin Polio oral
3. Smallpox vaccine
3 live viruses currently being used.

Rubeola — Rubeovax after 9 months of age with gamma globulin or killed vaccines if specific contraindications exist for use of Rubeovax.

D.T. — continued as booster following D.P.T. series as listed above q 3 - 4 years. If person over 6 years of age, use D.T. as basic series — 3 shots at monthly intervals, then follow thereafter q 3 - 4 years with boosters as above.

Recommend — in accordance with current American College of Surgeons drive to urge all adults in the area to contact their physicians to get currently needed boosters of Tetanus Toxoid and to keep up to date with boosters of Tetanus henceforth in order to eliminate danger of tetanus in event of accident or injury.

We recommend that following injury tetanus toxoid booster should be given within 48 hours of injury, and a booster be given if 6 months or more has elapsed in event of injury.

Sincerely,
H. W. Farrell, M.D., Chairman
Verne Cutshall, M.D.
Courtney Anderson, M.D.
J. H. Shaeffer, M.D.

NOTE: Some publicity now needed on the recommendations for oral polio booster and the tetanus booster program.

(It will be our pleasure to hear any questions regarding this schedule. We intend to amend this schedule as new information and procedures are perfected.)

Dr. Steele moved that this resolution be referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business. The motion was seconded by Dr. Sattler and carried.

RESOLUTION #2

WHEREAS, The Joint Commission on Accreditation of Hospitals in Bulletin No. 35 dated March, 1964, has issued a statement pertaining to "Qualified" physician surgical assistants which in effect denies the operating surgeon the right to exercise his best medical judgment and ambiguously defines when and under what circumstances he must utilize a "qualified" physician assistant, and

WHEREAS, Bulletin No. 35, places the judgment of medical qualifications of the physician assistant in the hands of non-medical personnel, and

WHEREAS, Bulletin No. 35 exemplifies the worst of the tendency of distant accrediting bodies to standardize by generalization and thus stultify the local use of experienced judgment, personal integrity, and uplifting ingenuity, be it therefore

RESOLVED, That the Medical Society of the State of South Dakota here assembled in convention does of one mind reaffirm its belief in the autonomy of the individual physician and of the separate hospital medical staffs and does express its disapproval of this standard in Bulletin No. 35 or any other standard of the Joint Commission on Accreditation of Hospitals or of any distant accrediting body which would limit the individual physician or medical staff in the exercise of best medical judgment in the care of patients, this statement of reaffirmation to be forwarded to the House of Delegates of the American Medical Association with a firm request that that body take immediate and effective steps to cause a sharp distinction to be drawn between rules for accreditation of hospitals and rules restricting local control and responsibility in matters of immediate medical care.

Submitted by the Seventh District Medical Society.

SURGICAL ASSISTANTS

"The Commissioners of the Joint Commission on Accreditation of Hospitals wish to clarify the Interpretation of their Standards concerning surgical assistants.

1) In any procedure with unusual hazard to life there must be a qualified physician present and scrubbed as first assistant.
   a) A qualified assistant is defined as a physician designated by the credentials committee of his respective hospital as being qualified to assist.
2) Qualified nurses, aides or technicians may be utilized as second or third assistants at the above operations, as listed in paragraph #1. These individuals may be used as first assistants at lesser operations, i.e., those operations not included in the above category.
   a) In defining the word 'qualified' in this instance, it means any individual acknowledged by the hospital authorities as having sufficient training to properly and adequately assist. The burden of proof in this instance would probably fall on the surgical committee of the medical staff, the operating room supervisor, and the hospital administration.

The words 'unusual hazard to life' defy accurate definition. The Commissioners of the Joint Commission by way of explanation state that two controls are implied. First, the operating surgeon must live up to his personal responsibilities and see to it that there is a physician assistant present if the case calls for it. He must think of his responsibilities to the patient above all else. Secondly, the Surgical Evaluation Committee or Tissue Committee, in reviewing the surgical cases in their respective hospitals, should live up to their responsibilities and if in their judgment they believe a physician assistant should have been in attendance at a certain operation, they should so notify the surgeon. If this privilege is abused repeatedly by the surgeon, corrective measure should be recommended by the Committee to the proper authoritative body of the hospital.

It is understood that medical staffs may desire to be more specific, and tighten the above recommendations to their own satisfaction. Such is their privilege."

Dr. Sattler moved that this resolution be referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business. Dr. Steele suggested that the Reference Committee consider the changing of the wording. A discussion followed. Dr. Vogele seconded the motion, and it carried.

RESOLUTION #3

WHEREAS: The South Dakota State Medical Association realizes that a number of various forms are utilized for college entrance examinations and immunizations for State schools in South Dakota,

THEREFORE BE IT RESOLVED that the South Dakota State Medical Association develop a uniform college entrance examination and immunization form and that this form be presented to the proper school authorities for uniform adoption.

Submitted by,
COMMITTEE ON SCHOOL HEALTH
W. R. Anderson, M.D., Chairman
T. E. Eyres, M.D.
G. E. Tracy, M.D.

Dr. Church moved that this resolution be referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business. Seconded by Dr. Tracy, and carried.

Dr. Tank read the report of the Councilor of the Tenth District Medical Society; the report of the Councilor of the Sixth District Medical Society; and the report of the Committee on Tuberculosis, inasmuch as they did not appear in the Delegates Handbook.

On motion duly made and seconded, the meeting was adjourned.

SECOND HOUSE OF DELEGATES MEETING
Sheraton Cataract Hotel
May 31, 1964 Sioux Falls, South Dakota

The second meeting of the House of Delegates was called to order by Speaker of the House Pro-Tem M. C. Tank, M.D. at 2:00 P.M. The following members were present for roll call: Drs. R. H. Hayes, J. P. Steele, Paul Hohm, A. P. Reding, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Fred Leigh, Preston Brogdon, E. T. Lietzke, T. H. Sattler, E. P. Sweet, H. E. Lowe, E. A. Johnson, W. R. Taylor, C. L. Vogele, G. Robert Bartron, G. E. Tracy, Donald Scheller, H. E. Werthmann, R. C. Jahraus, W. O. Hanson, Eric Mueller, C. F. Binder, B. G. Church, J. B. Gregg, S. M. Brzica, D. L. Ensberg, T. R. Anderson, R. C. Knowles, E. W. Sanderson, R. J. Foley, G. Knabe, A. M. Semones, Paul Dzintars, C. A. Johnson, M. R. Casand, V. Janavs, G. F. McIntosh, and B. J. Begley. A quorum was declared present and the meeting competent to proceed.

The report of the Nominating Committee was read by Dr. Tank, chairman of the committee.

The Nominating Committee submitted the name of Dr. J. T. Elston as Councilor from the Black Hills District Medical Society; the name of Dr. E. P. Sweet as Councilor from the Rosebud District Medical Society; the name of Dr. Harold Lowe as

Councilor from the Northwest District Medical Society; and the name of Dr. E. A. Johnson as Councilor from the Whetstone Valley District Medical Society. Dr. Perry moved that nominations be closed and that a unanimous ballot be cast for the nominated Councilors. The motion was seconded by Dr. Vogele and carried.

The Nominating Committee submitted the following names for officers of the State Association: President — James P. Steele; President-Elect — Paul Hohm; Vice President — P. P. Brogdon; AMA Delegate — A. P. Reding; Alternate AMA Delegate — Robert H. Quinn; Speaker of the House — Robert R. Giebink. Dr. Perry moved that nominations be closed and that a unanimous ballot be cast for these officers. The motion was seconded by Dr. Jahraus and carried.

The Nominating Committee submitted the City of Watertown to be the site of the 1965 annual meeting; the City of Huron to be the site of the 1966 annual meeting; and the City of Rapid City to be the site of the 1967 annual meeting. Dr. Cosand moved that the House of Delegates accept this portion of the report. The motion was seconded by Dr. Sweet and carried.

Dr. Tank moved that the report, as a whole, be adopted. The motion was seconded by Dr. Lowe and carried.

The minutes of the previous meeting were read and approved.

Mrs. Dorothy Preheim, Freeman, South Dakota, who is president of the South Dakota Medical Assistants Association, spoke to the House of Delegates on the work and goals of this organization.

Dr. T. H. Willcockson of Yankton, South Dakota, spoke briefly on the Medical School Endowment Association and urged the physicians to participate in the programs of the Association.

Dr. Tank then introduced Mr. Otha Linton, Director of Public Relations of the American College of Radiology, who spoke to the House of Delegates on the subject of public relations. Dr. Steele moved that a copy of Mr. Linton's presentation be obtained and sent to all members of the State Association. The motion was seconded by Dr. Sattler and carried.

Dr. C. A. Johnson spoke to the House of Delegates on the possibility of working out a program with the Fish and Game Commission, in cooperation with the pathologists, to study wild animals that have died or are sick to determine the causes of death and sickness in these animals. Dr. Steele moved that Dr. Johnson be given approval to explore the possibilities of this program. The motion was seconded by Dr. Church and carried.

Dr. Magni Davidson read the report of the Reference Committee on Credentials.

REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS

The Credentials of the Delegates to the South Dakota State Medical Association were checked and the following delegates, alternate delegates, officers and councilors were present: Drs. R. H. Hayes, J. Patrick Steele, Paul Hohm, A. P. Reding, R. H. Quinn, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Fred Leigh, Preston Brogdon, E. T. Lietzke, T. H. Sattler, E. P. Sweet, H. E. Lowe, E. A. Johnson, W. R. Taylor, C. L. Vogele, G. Robert Bartron, G. E. Tracy, Donald Scheller, J. A. Anderson, H. E. Werthmann, R. C. Jahraus, W. O. Hanson, Eric Mueller, C. F. Binder, Bill Church, M. B. Gregg, S. M. Brzica, D. L. Ensberg, A. K. Myrabo, R. C. Knowles, E. W. Sanderson, R. J. Foley, G. Knabe, A. M. Semones, M. R. Cosand, C. A. Johnson, V. Janavs, G. J. Bloemendaal, P. S. Nelson, C. L. Swanson, G. M. Huet, C. S. Larson, L. Behan, H. Andre, and David Studenberg.

A quorum was present for the meeting of the House of Delegates and the Credentials of those in attendance were in order.

Total registration for the convention was 460; including 180 physicians, 50 guests, 81 exhibitors and 109 Auxiliary members, along with 40 students.

Respectfully submitted,
REFERENCE COMMITTEE ON CREDENTIALS
Magni Davidson, M.D., Chairman
D. L. Scheller, M.D.
G. E. Tracy, M.D.

Dr. Hayes moved that the report of the Reference Committee on Credentials be accepted. The motion was seconded by Dr. Brzica and carried.

Dr. E. T. Lietzke read the report of the Reference Committee on Resolutions and Memorials.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

WHEREAS, the Sioux Falls District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 83rd Anniversary,

BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians in Sioux Falls and their wives.

WHEREAS, the management of the Sheraton Cataract Motor Inn have been so cooperative in providing facilities for the success of the 83rd Anniversary meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Sheraton Cataract Motor Inn.

WHEREAS, the Chamber of Commerce has provided excellent service in making it possible for the success of the working arrangements,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Sioux Falls Chamber of Commerce.

WHEREAS, the Sioux Falls Argus-Leader and Radio Stations KSOO, KELO, and KISD have been most cooperative in presenting the public news of the 83rd Annual Meeting of the South Dakota State Medical Association; also we would like to thank KNWC,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Sioux Falls Argus-Leader and radio stations KSOO, KELO, KISD and KNWC.

WHEREAS, the American Legion Club of Sioux Falls has provided facilities for the Stag Party and contributed much to the success of the meeting and entertainment,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the American Legion Club of Sioux Falls.

WHEREAS, the Sioux Falls country clubs, Minnehaha and Westward Ho, have provided facilities for golf and the banquet, and contributed much to the success of the meeting and entertainment,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Minnehaha, American Legion, and Westward Ho Country Clubs.

The Committee moved to accept the minutes of the Committee on Necrology and suggested that a cash donation be made to the South Dakota Medical School Endowment Association; the same amount as given for each individual last year, in memory of R. R. Fisk, M.D., Flandreau; James R. Byrne, M.D., Edgemont; Guy E. Van Demark, M.D., Sioux Falls; J. Cook, M.D., Bonesteel; M. W. Pangburn, M.D., Miller and Henry C. Deiley, M.D., Emery.

It was also moved that a letter be sent from the State Office advising the nearest surviving kin of the action of the State Body.

Respectfully submitted,
COMMITTEE ON RESOLUTIONS AND MEMORIALS

E. T. Lietzke, M.D., Chairman
V. Janavs, M.D.
H. E. Werthmann, M.D.

Dr. Hayes moved that the report of the Reference Committee on Resolutions and Memorials be accepted. The motion was seconded by Dr. Sanderson and carried.

Dr. Bill Church read the report of the Reference Committee on Reports of Standing Committees.

REPORT OF THE REFERENCE COMMITTEE ON STANDING COMMITTEES

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON LEGISLATION

The Reference Committee recommends the acceptance of this report.

REPORT OF THE PUBLICATIONS COMMITTEE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION AND HOSPITALS

The Reference Committee on Reports of Standing Committees has reviewed the report of the Medical School Affairs Committee. In connection with this subject and also in discussion with respect to an adverse attitude by the Accreditation Commission on Medical Schools toward our Preceptor Program in South Dakota and in order to express the sentiments of those heard by the Reference Committee and to express its own feelings on this subject, the following resolution is introducted by this Reference Committee:

WHEREAS: The Preceptor Program in medical education at the University of South Dakota has been an established part of the curriculum for more than fifteen years, and

WHEREAS: It has proven to be a valuable training to medical students in providing them an insight into the day-to-day experiences of medical practice in our State and giving them a sense of orientation by their opportunity to observe the over-all picture of medical practice, thus encouraging a substantial percentage of students to look with favor upon a career in general practice, and

WHEREAS: The prevailing opinion of past graduates indicates that such training has been of outstanding value to them during their subsequent years of medical education and even in active practice, and

WHEREAS: The recent Accreditation survey of our medical school questioned the value of this month of training and implied that such time could be used more productively in other phases of medical education, and

WHEREAS: This critical attitude may result from a lack of sufficient representation by practicing physicians on the Medical School Accreditation Committee of the American Medical Association,

THEREFORE BE IT RESOLVED that the House of Delegates of the South Dakota State Medical Association present a resolution to the American Medical Association House of Delegates meeting in San Francisco in June, 1964, requesting a review of the composition of this Accreditation Committee with the purpose in mind of including in its membership a greater number of actively practicing physician members to the end that medical education may be more responsive to the needs of the nation for actively practicing physicians and an increased number of general practitioners.

BE IT FURTHER RESOLVED that our Delegate to the American Medical Association be instructed to introduce this resolution at the 1964 annual meeting of the American Medical Association in San Francisco.

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON NECROLOGY

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CANCER

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON TUBERCULOSIS

The Reference Committee recommends the acceptance of this report as corrected.

The Committee on Tuberculosis met and the following recommendations were made:

1. Initial treatment centers be established in several medical centers in the State where physicians may refer private patients for diagnosis, evaluation, initial treatment, and surgery of tuberculosis patients. Follow-up treatment should be done by the private physicians throughout the State with over-all control under the supervision of the State TB Control Officer.
2. The Committee or Commission review the credentials of medical and surgical specialists in South Dakota who are interested in being appointed to the staffs of the initial treatment centers. The requirement for the medical specialist: should be a physician who has a special interest in treating tuberculosis and who is qualified in the judgment of the Committee. The requirement for surgical specialist: Board eligible or Board certified in general surgery including some experience in thoracic surgery, or one who is qualified in the opinion of the Committee.
3. The Legislature not be approached for monies for an extensive building program until a definite need is determined.
4. In view of the fact that a doctor of medicine has not been obtainable for the position of TB Control Officer, it is suggested that a continued effort be made to find a qualified physician for this position. Recognizing the fact that the program needs someone to coordinate the activities, it is suggested that a lay individual, qualified in medical administration or public health, be hired immediately to implement the law.
5. That an intensive information program be carried on throughout the State informing the physicians of the objectives and procedures to be followed in implementing the program, in cooperation with the State Department of Public Health.

REPORT OF THE COMMITTEE ON DIABETES

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD WELFARE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE COMMITTEE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE GRIEVANCE COMMITTEE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The Reference Committee recommends the acceptance of this report.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS OF STANDING COMMITTEES
Bill Church, M.D., Chairman
E. P. Sweet, M.D.
E. A. Johnson, M.D.

Dr. Taylor moved the acceptance of the Report of the Reference Committee on Standing Committees. The motion was seconded by Dr. Hayes and carried.

Dr. D. L. Ensberg read the report of the Reference Committee on Reports of Officers and Councilors.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS

The meeting of the Reference Committee on Reports of Officers and Councilors was held in the Oak Room of the Sheraton-Cataract Hotel at 10:00 P.M., Saturday, May 30, 1964. The following members were present: Drs. Brzica, Ensberg, and Semones. The meeting adjourned. I move the

On considering the reports, the Committee has the following comments to make: A medical seminar will be held in Rapid City, South Dakota, August 7 and 8. Everyone is urged to attend this meeting. All necessary information concerning the meeting will be sent out at a later date.

The committee approved all the reports of the officers and councilors, and moves their acceptance. A motion for adjournment was made by Dr. Brzica and the motion was seconded by Dr. Semones. The meeting adjourned. I move the adoption of this report.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS
D. L. Ensberg, M.D., Chairman
A. M. Semones, M.D.
S. M. Brzica, M.D.

Dr. Sanderson moved the acceptance of the Report of the Reference Committee on Reports of Officers and Councilors. The motion was seconded by Dr. Davidson and carried.

Dr. Fred Leigh read the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business.

REPORT OF REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS

The Reference Committee has considered the report of the Committee on Radio Broadcasts and Telecasts and recommends the acceptance of this report.

The Reference Committee has considered the report of the Editorial Committee and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Medical Licensure and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Veterans Administration and Military Affairs and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Prepayment and Insurance Plans and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Rural Health and recommends that the two recommendations contained in this report be referred to the Council for further study and discussion at the September Council meeting.

The Reference Committee has considered the report of the Committee on Nurses Training and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Workmen's Compensation and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Clinical Pathology and recommends the acceptance of this report. The Reference Committee also believes that this Committee should be commended for the fine Medical Technology Workshops which they have set up.

The Reference Committee has considered the report of the Committee on Rehabilitation and recommends the acceptance of their report, pending their meeting to be held on Monday, June 1.

The Reference Committee has considered the report of the Committee on Care of the Indigent and recommends the acceptance of its report.

The Reference Committee has considered the report of the Committee on Civil Defense and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on School Health and recommends the acceptance of the report. The Reference Committee also recommends adoption of Resolution #3 submitted by the School Health Committee, with the suggestion that it be extended to include all resident colleges in the State of South Dakota in addition to State schools. The Reference Committee suggests that the Committee also study the problem of athletic examinations and set up standardization procedures for approval of the State Association.

The Reference Committee has considered the report of the Budget and Audit Committee and recommends its acceptance.

The Reference Committee has considered the report of the Committee on Aging and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Coroner's Law and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Traffic Safety and recommends the acceptance of this report. The Committee wishes to indicate that the matter of driver disability forms has been referred to this Committee for study and recommendation at a future meeting.

The Reference Committee has considered the report of the Liaison Committee with the South Dakota Pharmaceutical Association and recommends the acceptance of this report.

The Reference Committee has considered the report of the Committee on Medicine and Religion and recommends the acceptance of this report.

The Reference Committee has considered the report of the Fee Advisory Committee and recommends the acceptance of this report.

The Reference Committee has considered Resolution #1, submitted by the Seventh District Medical Society concerning immunization schedules. The Committee recommends that this resolution be referred to the Commission on Medical Services, subheading School and Public Health for further study requesting that the resolution should also include standards for school examinations, immunizations, athletic examinations and injuries.

The Reference Committee has considered Resolution #2, submitted by the Seventh District Medical Society on the accreditation procedures suggested by the Joint Council for Accreditation.

The Committee recommends the adoption of this resolution.

The Reference Committee has considered the change in the bylaws concerning committee structure. The Committee recommends the adoption of this proposed bylaw change.

The Reference Committee moves the adoption of this report as a whole.

Respectfully submitted,
REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS
F. D. Leigh, M.D.
E. J. Perry, M.D.
R. J. Foley, M.D.

Dr. Sattler moved the acceptance of the Report of the Reference Committee on Reports of Special Committees and Miscellaneous Business. The motion was seconded by Dr. Vogele and carried.

Dr. Leigh read the recommendation of the Reference Committee on Resolution #1 submitted by the Seventh District concerning a suggested immunization schedule. (Refer to Minutes of the First House of Delegates meeting.) Dr. Leigh moved that this resolution be referred to the Commission on Medical Services for further study and the adoption of this portion of the report. The motion was seconded by Dr. Sattler and carried.

Dr. Leigh read the recommendation of the Reference Committee on Resolution #2 (Refer to First House of Delegates minutes) submitted by the Seventh District Medical Society concerning Bulletin 35 of the Joint Commission for the Accreditation of Hospitals. Dr. Leigh moved the adoption of this portion of the report. The motion was seconded by Dr. Johnson and carried.

Dr. Leigh read the recommendation of the Reference Committee on Resolution #3 submitted by the School Health Committee concerning a standard form for college entrance physical examinations. (Refer to Minutes of First House of Delegates meeting.) Dr. Leigh moved the adoption of this portion of the report. The motion was seconded by Dr. Stransky and carried.

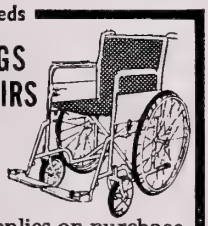
Dr. Leigh moved the adoption of the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business in its entirety. The motion was seconded by Dr. Hohm and carried.

Dr. Tank introduced the new officers and Councilors of the State Medical Association.

Dr. Tank administered the Presidential Oath of Office to Dr. James P. Steele, the incoming president of the Association for the next year.

Dr. Tank made a few announcements concerning the activities of the next two days of the annual meeting.

The meeting was adjourned on motion at 3:40 P.M.

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PRESIDENTIAL OATH OF OFFICE

I solemnly swear that I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans.

I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

REPORTS OF OFFICERS AND COUNCILORS AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE PRESIDENT

My report this year would be lengthy but because too much has already been said in too many places I feel that the following enclosure of the itinerary will be sufficient to explain the activities of this office.

August 8, 1963 — District Medical Meeting — Brookings
August 29, 1963 — OAA Meeting with State Welfare Board — Yankton
September 7, 1963 — District Medical Meeting— Rapid City — Speaker, Dr. Robert Samis — University of Wisconsin
September 17, 1963 — District Medical Meeting — Yankton
September 25, 1963 — Committee for Patient Care — Huron
October 6, 1963 — Council Meeting — Huron
October 14, 1963 — Fischer Quintuplets' Birthday Party — Aberdeen
October 17, 1963 — American Psychiatric Association Meeting — Rapid City
October 21, 1963 — University of South Dakota Medical School Meeting and American Medical School Accreditation Committee — Yankton
October 28-30, 1963 — Seminar on Venereal Diseases (Syphilology) — Cleveland, Ohio
November 7, 1963 — Debate on Medical Care for Aged, University of South Dakota — Vermillion
November 14, 1963 — PKU Meeting — Pierre
December 3, 1963 — Visit to PHS Indian Hospital — Rosebud
December 5, 1963 — 10th District Medical Meeting — Winner
December 9, 1963 — Chamber of Commerce Dinner — Watertown — Speaker, Dr. Edward Annis, AMA President
December 10, 1963 — PKU Meeting — Sioux Falls
December 11, 1963 — Fee Advisory Committee Meeting — Sioux Falls
December 12, 1963 — Visit to Medical Unit, South Dakota State Penitentiary and visit to Veterans Hospital — Sioux Falls
District Medical Meeting — Huron
Visit to Redfield State Hospital and School — Redfield
December 19, 1963 — Mitchell District Medical Meeting — Mitchell
Annual visit to Yankton State Hospital — Yankton

January 7, 1964 — District Medical Meeting — Watertown

January 14 & 15, 1964 — State Legislature — Pierre

January 16 & 17, 1964 — OB-GYN Refresher — Omaha, Nebr.

January 18, 1964 — Council Meeting, Blue Shield Meeting, Committee on Legislation of SD-SMA — Sioux Falls

January 19, 1964 — South Dakota Physician's Committee AMPAC Breakfast, Interprofessional Health Council — Sioux Falls

January 28, 1964 — Welfare Board Meeting, Ophthalmologists — Pierre

February 2, 1964 — AMPAC Meeting — Pierre

February 4, 1964 — 7th District Medical Meeting — Sioux Falls

February 5, 1964 — A.A.P. and A.A.G.P. Psychiatric Seminar — Sioux Falls

February 6, 1964 — AMPAC Meeting — Pierre

February 28, 1964 — 12th District Medical Meeting — Milbank

March 4, 1964 — 1st District Medical Meeting — Aberdeen

March 12, 1964 — Retarded Children's Society — Pierre

March 18, 1964 — President's Lecture, University of South Dakota Medical School — Vermillion

March 22, 1964 — AMPAC Meeting — Huron

April 4, 1964 — Anual Banquet, University of South Dakota Medical School — Sioux Falls

April 7, 1964 — Visit to Pine Ridge PHS Indian Hospital, Black Hills District Medical Meeting — Hot Springs
Visit to Custer State Hospital

April 8, 1964 — Visit Ellsworth AFB Hospital — Rapid City
Visit to Ft. Meade Veterans Hospital
District Medical Meeting — Mobridge
Visit to Cheyenne-Eagle Butte PHS Indian Hospital

April 9, 1964 — Conference on Religion and Medicine — St. Mary's Staff and Ministerial Association — Pierre

April 21, 1964 — S. D. League for Nursing Meeting, Panel Discussion — Mitchell

April 26, 1964 — AMPAC Meeting — Sioux Falls

April 29, 1964 — Fee Advisory Meeting — Sioux Falls

May 15, 1964 — Mental Health Congress—Pierre

May 30, 31, June 1 & 2, 1964 — Annual State Medical Meeting — Sioux Falls

In particular are some things which might be worthwhile bringing to your attention. I have been particularly impressed by doctors in every district with their zealous attention to their practice and to the people they serve. I am equally impressed by the fact that a few in some districts are actually hostile to our program. It would seem, therefore, that our program is wrong or that the doctors mentioned are wrong. In my own mind I am certain which is in error. However, we have no course of action with these physicians and it seems that, as always, we will have to carry them on our backs as probably has been done for a good many years prior to this time.

It has been a pleasure to serve in this office and to be associated with you.

Respectfully submitted,
Robert H. Hayes, M.D.
President

The Reference Committee recommends the acceptance of this report.

REPORT OF THE PRESIDENT-ELECT

It has been my privilege during the past year to serve as President-elect of the State Medical Association. While the duties have not been demanding I have endeavored to keep abreast of current trends in state and national affairs and to be of such help as possible to the President, officers and officials of the society. Your President-elect attended the North Central Medical Conference in Minneapolis this fall for a very rewarding day and a half.

It is my hope that I will be allowed to assume the Presidency of the State Medical Association for the coming year and if so will do my best to represent our society both locally and nationally and to contribute what small talents of leadership I have to our profession and our society. I am sure we are all aware that we face very crucial and trying times, not only on the socio-economic front but on the scientific front where the rapid strides of medicine in almost all fields are forcing upon all of us an ever increasing awareness of our responsibility to maintain and improve our professional knowledge and skill. On the socio-economic front our public image and public relations have not always been what they should be and need to be improved. This is not something that happens automatically out of the executive offices or from the officers of the society but only by the concerted action of the entire medical profession.

A good public image and good public relations must be built on a day to day basis in each of your practices. We must remember that we are selling just as any other vender of service or merchandise. No matter what our skills or abilities if we cannot attract people to us, give them confidence and faith, our skills and abilities will go to waste. As in any other functioning organization we must each give up a little for the good of the organization as a whole and as in no time in the past we have a need for the abandonment of petty grievances, jealousies and feelings.

With these thoughts in mind I hope to work to the best of my ability in the coming year for our common good.

Respectfully submitted,
James P. Steele, M.D.
President-Elect

The Reference Committee recommends the acceptance of this report.

REPORT OF THE VICE PRESIDENT

The Vice President of the South Dakota State Medical Association attended all meetings of the Council and House of Delegates. He also attended all meetings of the Blue Shield Board. He attended the meetings of the North Central Conference held in Minneapolis, Minnesota. In addition to attending these meetings, the Vice President carried out all other duties assigned to this office.

Respectfully submitted,
Paul Hohm, M.D.
Vice President

The Reference Committee recommends the acceptance of this report.

REPORT OF THE SECRETARY-TREASURER

As your officer, I have attended all Executive Committee and Council Meetings during the year. The duties of this office were carried out with the assistance of the able and competent Executive Secretaries, John C. Foster and Richard Erickson, and the entire headquarters staff.

Respectfully submitted,
A. P. Reding, M.D.
Secretary-Treasurer

The Reference Committee recommends the acceptance of this report.

REPORT OF THE DELEGATE TO THE AMA

As your newly elected delegate, I attended the 112th annual meeting of the American Medical Association in Atlantic City, N. J. June 16-20, 1963. Enlargement of the Board of Trustees, the sections and scientific program of the AMA, interns and residents, a new Institute for Biomedical Research, a physician's pension plan and the relation between tobacco and disease were among the major subjects acted upon by the House of Delegates.

The proceedings of the House of Delegates were published in detail in the **AMA News, AMA Journal,** and the **South Dakota Journal of Medicine and Pharmacy** following the meeting.

Mrs. Stoltz honored at Reception

The hi-light of the convention, as far as those from South Dakota were concerned, was the reception honoring Mrs. C. Rodney Stoltz of Watertown, newly installed president of the Woman's Auxiliary to the American Medical Association, held in the Garden Court of Haddon-Hall Hotel on the evening of June 19th. More than three hundred invited guests, including officers and delegates of the national auxiliary, officers of the AMA, state officers and friends came to offer their congratulations to Virginia, meet her family, and enjoy the South Dakota hospitality.

This party was sponsored by your medical association and the auxiliary. Everyone agreed that the reception was one of the nicest parties at the convention and there wasn't a more proud and happy group than the doctors and their wives from South Dakota who served as hosts and hostesses.

Your delegate attended the Seventeenth Clinical Meeting at Portland, Oregon December 1-4, 1963. Tobacco and health, the rights of Negro physicians, revision of the AMA Constitution and Bylaws, voluntary health agencies and blood banks were among the major subjects acted upon by the House of Delegates during these sessions. The proceedings of the House of Delegates were published in detail in the **AMA News,** the **AMA Journal,** and the **South Dakota Journal of Medicine and Pharmacy** following the meeting.

Each year at the Clinical Meeting the President of the Woman's Auxiliary to the American Medical Association speaks before the House of Delegates, usually reviewing their accomplishments during the current year. This year the statistics were printed in the delegates handbook.

When Mrs. C. Rodney Stoltz of South Dakota, the National President, stepped to the podium with her vitality of personality, capacity for leadership, quick intelligence, and laconic wit, she held undivided attention of the entire assembly. Her practical and business-like explanation of the operation of the auxiliary and its potential for helping the cause of medicine was most convincing and challenging. Virginia has done a terrific job as national president and South Dakota can be very proud of her. She won the respect and personal friendship of the doctors as well as the auxiliary members throughout the fifty states.

Respectfully submitted,
A. P. Reding, M.D.
AMA Delegate

The Reference Committee recommends the acceptance of this report.

REPORT OF THE ALTERNATE DELEGATE TO THE AMA

As Alternate Delegate to the American Medical Association, I attended the AMA convention at Atlantic City in June of 1963. I also attended the meeting in Portland, Oregon in December of 1963. Both of these meetings were attended by Dr. Reding, your delegate, and will be reported by him.

Respectfully submitted,
R. H. Quinn, M.D.
Alternate Delegate to the AMA

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCIL

There were three regular meetings held during the year, in June, October, and January. The minutes of each of these meetings have been published in the **South Dakota Journal of Medicine and Pharmacy.**

The Council acted on proposed National Health legislation and implemented the State Medical Aid for the Aged Program; studied the proposed budget of the State Medical Association; approved the report of a Special Committee on Revision of Committee Structure in the State Association; approved Life Membership applications and State Advisory Committee appointments.

Mr. John C. Foster's resignation was accepted by the Council and Mr. Richard Erickson was selected to fill the position.

Other miscellaneous business was considered and acted upon during the regular meetings.

Respectfully submitted,
E. J. Perry, M.D.
Chairman of the Council

The Reference Committee recommends the acceptance of this report.

REPORT OF THE SPEAKER OF THE HOUSE

As Speaker of the House, I attended all the council meetings during the current year.

Respectfully submitted,
Robert R. Giebink, M.D.
Speaker of the House

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR-AT-LARGE

I have very little to report, except that I attended all meetings and that Doctor Tank, who is Councilor of the Third District has reported all details of the meetings.

Respectfully submitted,
Magni Davidson, M.D.
Councilor-at-Large

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIRST DISTRICT

MEMBERSHIP: 44 Members
OFFICERS:
PRESIDENT:
B. C. Gerber, M.D.
VICE-PRESIDENT:
Carson Murdy, M.D.
SECRETARY-TREASURER:
Paul Leon, M.D.
COUNCILOR:
E. J. Perry, M.D.
CENSORS:
B. F. King, M.D.
J. C. Calene, M.D.
E. A. Rudolph, M.D.
DELEGATES:
W. R. Taylor, M.D.
C. Vogele, M.D.
R. Bormes, M.D.
ALTERNATE DELEGATES:
C. Murdy, M.D.
G. McIntosh, M.D.
J. Blomendahl, M.D.

The Aberdeen District Medical Society holds monthly dinner meetings on the first Wednesday

of each month from September to June. The following is a list of events and speakers:

SEPTEMBER:
Dr. James Berbos made medical history by delivering the Fischer Quintuplets. The speaker at the regular meeting was Dr. B. R. Skogmo of Mitchell, S. Dak., who spoke on "Hypnosis in Medical Practice."

OCTOBER:
Dr. Arthur McFee from the Department of Surgery at the University of Minnesota spoke on "Gastric Hypothermia (Gastric freezing) in Peptic Ulcer Disease."

NOVEMBER:
The guest speaker was Mark Baum, M.D. of Idaho Falls, Idaho who spoke on "Chemical and Bacteriological Weapons in a World of Conflict."

DECEMBER:
The annual election of Officers and Committee appointments was accomplished.

JANUARY:
Dr. Theodore Pfundt of Creighton University spoke on "Birth Defects and their Treatment."

FEBRUARY:
Dr. Philip Bernatz of the Mayo Clinic spoke on "Practical Management of Patients with Addominal Aortic Aneurysms."

MARCH:
Dr. R. H. Hayes, President of the South Dakota State Medical Association visited the Aberdeen District. The guest speaker, Dr. E. Heinrichs of Watertown, S. Dak., was unable to attend the meeting.

APRIL:
Dr. Meeker from the University of Minnesota spoke on "Abdominal Decompression — a New Technique in Managing the First Stage of Labor."

MAY:
Dr. Wood spoke on "The Medical, Legal, and Social Aspects of Voluntary Sterilization."

Respectfully submitted,
E. J. Perry, M.D., Councilor
First District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SECOND DISTRICT

MEMBERSHIP: 26 Members

OFFICERS:
President: Parry Nelson, M.D.
Vice President: Edward Huppler, M.D.
Secretary-Treasurer: Eberhard Heinrichs, M.D.

COUNCILOR:
John J. Stransky, M.D.

CENSORS:
Burke Brewster, M.D.
Tom Reul, M.D.
Charles Ryan, M.D.

DELEGATES:
G. R. Bartron, M.D. (One Year)
Gerald E. Tracy, M.D. (Two Years)

ALTERNATES:
C. J. Clark, M.D.
Parry S. Nelson, M.D.

The Watertown District Medical Society holds monthly dinner meetings on the first Tuesday of each month from September to June. In addition to the regular business meetings, the following scientific programs were presented during the year:

NOVEMBER:
John Foster, Executive Secretary SDMA discussed the current status of medical aid to aged and the probable timetable for implementation of Kerr-Mills in South Dakota.

DECEMBER:
Mr. N. Bredeson, HEW representative, currently assigned to South Dakota State Health Department reported on the immunization level survey conducted in Rapid City. Methods of obtaining federal funds for such surveys were detailed by Mr. Bredeson.

JANUARY:
Annual visitation by President of SDMA, Robert Hayes, M.D. Mr. John Zimmer, Legal Council of the Board of Basic Science in South Dakota spoke on "Illegal Practice of Healing Arts in South Dakota."

FEBRUARY:
Film on "Portal Decompression."

MARCH:
Watertown High School debate team presented a debate program entitled "Should Social Security Benefits be Used to Cover Extended and Complete Medical Care?"

APRIL:
Dr. Kleitsch, Chief of the Surgical Service, Omaha VA Hospital, presented a program on "The Solitary Pulmonary Nodule."

One of the highlights of the past year was the appearance of Dr. Edward Annis, President of the AMA, as main speaker at the annual banquet of the Watertown Chamber of Commerce. Physicians throughout the State were invited to attend this program. Following the Chamber banquet, the District Society hosted an informal get-together with Dr. Annis. At this time physicians and their wives had an opportunity to meet and talk with Dr. Annis.

Respectfully submitted,
John J. Stransky, M.D., Councilor
Second District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR THIRD DISTRICT

The first meeting was on June 13, 1963. This was held at the beautiful Madison Country Club and about 30 members and guests were present. The guest speaker was Dr. Robert E. Van Demark and his subject was Surgical Repair of Injuries of the Hand and Wrist, which was instructive and enjoyed by all the members. Several communications from the State Secretary were read at the business meeting; one of them regarding the so called "Operation Home Town." This was amplified by Dick Erickson, Assistant State Secretary who urged no let-down of efforts to oppose the passage of any legislation of Medicare Type. He, at that time, called attention to the fact that the State of South Dakota was the first to have the Kerr-Mill implementation written by Blue Shield and Blue Cross and that a concerted effort is being made to have other states adopt similar arrangements.

The next meeting of the Third District was held at the Brookings Country Club, August 8th, 1963. About 35 members attended and the main speaker was Dr. Hayes, our newly elected State President, who gave us an enlightening talk on the necessity for continuous vigilance and action against the threat of Medicare, following this, there was a presentation of the motion picture "Operation Home Town." The meeting was adjourned, and arrangements made for the next meeting to be held in Brookings, also.

The October meeting of the Third District was held at the Sawnee Hotel in Brookings and, as a part of the scientific session, Mr. Norman Bredeson of the State Department of Health, was introduced to the members. His talk on the State Initiated Program of Mass Immunization brought forth much criticism from a large number of members. Dr. Tank reported on the meeting of the Council which was held in Huron, and it was quite evident that the State Health Department was continuing its efforts to set up a State-wide vaccination program, underwritten by Federal funds,

which had previously been turned down by the Council and the House of Delegates, at the annual meeting. Dr. Tank also reported on the discussion held on the program of the Association for the Mentally Retarded regarding PKU testing throughout the State, and possibly asking for legislation making such testing mandatory in the State. The Council recommended to the District Societies that this idea of a pilot study on the system of PKU testing be endorsed but studied very thoroughly by the Committee on Legislation. Following this rather heated portion of the meeting, Mr. Bredeson left and the rest of the scientific program was given by Dr. Roberts on the normal and abnormal levels of testing the results of hematology. The meeting was adjourned.

The next meeting of the Third District Medical Society was held at the Tea Room at the Indian School in Flandreau, South Dakota. There was a marvelous meal put on by the members of the school, which is always done at this particular place. The scientific portion of the meeting was very interesting and informative by Dr. Fred Stahman of Sioux Falls on genito-urinary and gynecological problems, including the treatment of incontinence in women; molds and coriocarcinoma of the ovary and breast with cytotoxic therapy. At the business meeting, Dr. Patt reported on visits by Mr. John Jones and Norman Bredeson of the State Health Department, who desired some local organizational groups to conduct the actual survey, which was requested by the District to determine the level of immunization in the local areas comprising the Third District. The Brookings County PTA was contacted and agreed to consider the matter at a later date. The chairman of the committee was appointed to survey the Yankton recommendation of the Washington State Medical Disciplinary Legislation reported in favor of such legislation. The next order of business was the election of officers to serve in 1964. The following were elected: President: Dr. J. A. Anderson of Madison; Vice President, Dr. Bruce Lushbough of Brookings; Secretary-Treasurer: C. N. Kershner of Brookings; Delegates, Don Scheller and J. A. Anderson; Alternates: H. R. Wold and J. A. Muggley. Censors: Drs. S. Friefeld, C. S. Roberts and C. R. Turner. Following this, the meeting adjourned.

The next meeting of the Third District Medical Society was held in Madison, February 13, 1964. At the business meeting, Dr. Tank announced that the new State Executive Secretary, Richard C. Erickson, was to replace John Foster. He also informed the Society of the action of the Council in the necessity of turning down the proposed Washington State Medical Disciplinary Legislation, as recommended to be enacted by South Dakota as it did not have sufficient support of the districts at the Council. Dr. Tank was appointed to the nomination committee of the State. Following the business meeting, there was a very interesting presentation by Dr. J. L. Vose on the origination of health services. There was considerable discussion following this, and then the meeting was adjourned.

It is the feeling of the Councilor that this society has operated well during the year of 1963 and 1964, but this is a normal situation as far as the Third District is concerned.

Respectfully submitted,
M. C. Tank, M.D., Councilor
Third District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FOURTH DISTRICT

The Fourth District Society had three meetings during the year at which current business was discussed. The November meeting was attended by the State President, Dr. Robert H. Hayes of Winner, South Dakota.

The chief activity of the Society during the past year was completing the oral polio clinics.

Officers for the current year are:

PRESIDENT:
R. C. Jahraus, M.D.
Pierre, South Dakota
VICE PRESIDENT:
R. J. Zakahi, M.D.
Pierre, South Dakota
SECRETARY-TREASURER:
J. T. Cowan, M.D.
Pierre, South Dakota

Respectfully submitted,
L. C. Askwig, M.D., Councilor
Fourth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIFTH DISTRICT

The 1963 officers were: President, Dr. William Hanson of De Smet; Vice-President, Dr. Ted Hohm of Huron; Secretary-Treasurer, Dr. William Huet of Huron; Board of Censors, Dr. B. T. Lenz, Dr. C. F. Gryte, and Dr. James DeGeest.

There were four meetings held during the year on February 14, May 16, September 16, and December 12, 1963. The May 16th meeting was held at De Smet. All others were held in Huron. At the first meeting several guests were present, Mr. Ben Diamond, Mr. Norman Bredeson, Mr. Larry Brennan, and Mr. Don Worth of the State Health Department at Pierre. They gave a talk about venereal disease and presented a movie following this about the same. Dr. Fred Leigh was nominated for the nomination committee. Dr. Saylor reported about the American Society for Academic Achievement. Dr. Robert Bell asked for authorization from the Society to pursue formation of a blood bank at De Smet. It was granted. A Polio Clinic date was set.

The May 16th meeting was a dinner meeting at De Smet. The fight against Medicare was discussed. Dr. Paul Hohm talked about AMPAC and S.D.P.C., and outlined the purpose of these societies. Dr. Fred Leigh was nominated as representative for the Huron District Medical Society. The fight to have a pilot plan of Kerr-Mills approved by the Government was discussed. Dr. Roscoe Dean of Wessington Springs presented a motion that the South Dakota State Medical Association go on record against the advertising of cigarette smoking. This was voted on and passed. The preceptors from South Dakota Medical School were introduced.

The September 12th meeting was held in Huron at the Inn. There was a motion to recommend Dr. Pangburn for honorary life membership. It was reported that the House of Delegates approve a watered-down resolution against smoking advertising at the State meeting in June. The purpose of the Student AMA was explained by Dr. David Buchanan. The Kerr-Mills program report was given and stated that this program has been delayed by the government. The third polio clinic date was announced, it being October 6, 1963. Dr. Clifford Lardinois, pathologist, will join the Saint John's Hospital staff on October 1, 1963. Dr. Saylor would like to start an immunization program against tetanus in this area. Approval of the Society was given.

The last meeting was December 12, at the Inn in Huron. A report from the Secretary-Treasurer, Dr. Huet, was read. Several guests were introduced, Dr. Carlos Mendoza, the new psychiatrist at the Central South Dakota Mental Health Center in Huron; Dr. Clifford Lardinois, pathologist at St. John's Hospital, Huron; Dr. T. Hines, associated with Dr. James DeGeest in Miller; Dr. G. B.

Willes; Dr. Robert Hayes, President of the South Dakota Medical Association, and Mr. Richard Erickson, Executive Secretary of the State Medical Society. Dr. Ted Hohm announced that Dr. Wilbur Hohm will start at the Tschetter-Hohm Clinic on January 1, 1964. A motion was made by Dr. Leigh to give a testimonial dinner to Dr. Pangburn, as he is now an honorary life member. A motion was made and passed that the money from the Polio Clinics be given to the South Dakota State Medical Association for loans to deserving medical students. The officers for 1964 were nominated and duly elected, being: President, Dr. Ted Hohm of Huron; Vice-President, Dr. David Buchanan of Huron; Secretary-Treasurer, Dr. William Huet, of Huron. The Board of Censors will be Dr. James DeGeest of Miller. Dr. Winston Odland of Huron and Dr. Clifford Lardinois of Huron were accepted as new members to the Society. Dr. Carlos Mendoza was accepted as a transfer member from Yankton district. Dr. Hayes gave a talk about the South Dakota University Medical School.

Respectfully submitted,
F. D. Leigh, M.D., Councilor
Fifth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SIXTH DISTRICT

The 6th District Medical Society met on October 17, 1963 for dinner and a Business Meeting. A Scientific Meeting was held with Dr. Phil Gross of Sioux Falls, South Dakota giving a talk on Thalidomide and Embryonic Deformities.

On December 17, 1963 a Christmas meeting was held, part of which was social and an address was given by Dr. Pugh of Sioux City, Iowa. Dr. Hayes, President of our Society made his official visit on this date.

A meeting was then held on May 14, 1964, at which time new officers were elected. The officers are as follows:

President: Dr. Frank Tobin
Vice President: Dr. Bernie Skogmo
Secretary-Treasurer: Dr. Judd Mabee

Also, at this meeting, a very significant step was taken in that it was the feeling of most of the Society that there had not been adequate meetings and interest in the local Society and it was decided that four business and general meetings be held every year and that two Scientific meetings be held in addition to the general meetings. It is believed by the Councilor that the Sixth District Society is showing a great deal more interest and it is expected that this will continue throughout the next year.

Respectfully submitted,
Preston Brogdon, M.D., Councilor
Sixth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SEVENTH DISTRICT

MEMBERSHIP: 108 Active
1 Associate
8 Eligible for Membership
11 Life Members

Regular meetings are held at the Westward-Ho Country Club on the first Tuesday of each month except during the summer months of June, July, and August. The board of directors meets on the Monday preceding the regular meeting and during the summer months on call of the president.

May 7, 1963: Meeting devoted to instructions to the delegates to the state meeting held at Yankton this year. The film "Operation Home Town" sponsored by the A.M.A. was shown.

September 3, 1963: Dinner and business meeting.

October 1, 1963: Dinner and business meeting.

November 5, 1963: Mr. Norman Bredeson, H.E.W. employee assigned to the State Health department spoke for the utilization of Federal funds allotted to South Dakota to sponsor immunization programs for children. Considerable discussion followed his remarks and it was the concensus of opinion that there was no need for a state or federally financed program in the 7th district area. A resolution referring the matter to the executive committee was unanimously adopted.

December 3, 1963: The report of the nominating committee was given and the officers elected were:

Doctor Steve Brzica, President
Doctor John McGreevy, Vice President
Doctor E. W. Sanderson, re-elected Secretary
Doctor D. Ensberg, re-elected Treasurer

Members were asked to indicate if they wished to attend the Watertown Chamber of Commerce annual meeting to hear Doctor Ed Annis, A.M.A. President. The society agreed to charter a bus for Doctors and wives who wished to attend.

January 7, 1964: Dinner and business meeting.

February 4, 1964: The society will be host to the annual meeting of the Sioux Valley Medical Association in Sioux Falls on Feb. 20 and 21st. The program is arranged by a committee from the 7th district society. Expenses up to $200.00 were voted to cover expenses of the 7th district in connection with the meeting. Doctor Robert Hayes, Winner, President of the State Medical Society was a guest at this meeting and gave an excellent informative talk on the activities of the association during his tenure of office and outlined some future projects of interest to the whole society.

March 3, 1964: Mr. Richard Erickson, Executive Secretary of the State Society, spoke briefly regarding the state meeting which will he held in Sioux Falls in May and June of this year. Members of the special services division of the Sioux Falls school system presented a panel discussion, with slides, explaining their activities and their relationship to the medical profession.

April 7, 1964: Dinner and business meeting.

Respectfully submitted,
E. T. Lietzke, M.D., Councilor
Seventh District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR EIGHTH DISTRICT

Meeting was held April 23, 1963, with President J. P. Steele, M.D. presiding. New members elected included Stanley H. Nordmo, M.D., Vermillion, South Dakota, and Earl Nelson, M.D., Lake Andes, South Dakota. Final review of plans for the State Meeting, to be held June 8-9-10-11, 1963, in Yankton, were discussed. The Eighth District Medical Society accepted a $1,000 gift from the Staff of Sacred Heart Hospital, to be used for expenses incurred at the Annual Meeting of the South Dakota Medical Association in 1963.

On September 17, 1963, meeting of the Yankton District Medical Society was held at Fort Yankton Stockade, at which time Dr. Paul St. Aubins, Professor of Radiology, University of Nebraska, was the speaker; subject, "Non-Surgical Treatment of Cancer." At this meeting it was voted that any monies left from the polio clinics, of the fall of 1962, be incorporated into the Society's general fund, to be used for educational and scientific endeavors. Dr. Hayes, President of the South Dakota Medical Association, discussed the problems relating to medical education, and the relationship of the OAA program to the South Dakota Medical profession. Mr. John Foster, Executive Director of the South Dakota Medical Association, provided information on the MAA plan. Dr. L. Behan, Superintendent of Yankton State Hospital, dis-

cussed legislative measures coming up that pertain to the Yankton State Hospital. The Eighth District Society went on record as being in favor of the Ability to Pay bill, concerning patients admitted to Yankton State Hospital. The Eighth District also favored the urging of Blue Cross to consider mental health care, in relationship to recent federal action into local mental health care facilities. It was agreed that the Executive Committee function as the School Health Committee for the Eighth District.

On November 12, 1963, meeting was held at the Yankton State Hospital. The guests included members of the Staff of Yankton State Hospital, faculty of the University of South Dakota Medical School, Mr. Charles Johnson (representative of the AMA), and Mr. John Foster (Executive Director of the SDMA). Scientific program was a "Survey of Depression," given by C. G. Baker, M.D., Clinical Director of Yankton State Hospital. Discussion of various legislative programs was brought before the District, and voted in favor of the **Child-beating Syndrome Act.** Mr. Foster discussed the MAA program status. The District Medical Society again went on record as opposing a state-wide program of monies to be used on immunization program; also, that PKU testing program was a private endeavor, and was left up to local hospitals, regarding decision as a participation. New member elected was Dr. N. B. Saoi, Urologist, Yankton, South Dakota.

January 28, 1964 meeting held at the Prairie Restaurant, Vermillion, South Dakota, with Dr. J. P. Steele presiding. Scientific program was "Diagnosis of Endocrinologic Disorders, a Practical Approach," by Thomas Skillman, M.D., Department of Endocrinology, Creighton University School of Medicine, Omaha, Nebraska. The report regarding the King-Anderson legislation was reviewed by Dr. T. H. Willcockson, Chairman.

Committee to review immunization status in the District was appointed as follows:

W. F. Stanage, M.D., Chairman
R. F. Hubner, M.D.
Marian Auld, M.D.
D. B. Reaney, M.D.
R. F. Thompson, M.D.

Eighth District approved supporting any diphtheria-tetanus program proposed by the SDMA. Eighth District approved the increase in annual fee from $2 to $5, to the SDMA. Dr. F. W. Haas was appointed Historian for the 8th District Medical Association. Officers elected for the year 1964:

PRESIDENT:
R. J. Foley, M.D.
Tyndall, S. Dak.
VICE PRESIDENT:
R. F. Thompson, M.D.
Yankton, S. Dak.
SECRETARY:
D. Max Reade, M.D.
Yankton, S. Dak.
TREASURER:
G. Knabe, M.D.
Vermillion, S. Dak.

Names for Councilor to be submitted to the Council were:

C. F. Johnson, M.D., Yankton, S. Dak.
T. H. Willcockson, M.D., Yankton, S. Dak.

Delegates to House of Delegates, SDMA, two year terms:

R. J. Foley, M.D., Tyndall, S. Dak.
G. Knabe, M.D., Vermillion, S. Dak.

Alternate Delegates:

L. Behan, M.D., Yankton, S. Dak.
H. Andre, M.D., Vermillion, S. Dak.

Contribution of $100 was voted to be given to the Awards Subcommittee, the University of South Dakota Tenth Annual Science Fair, for prizes.

Dr. J. P. Steele received a vote of appreciation for his leadership of the Eighth District during 1963, which included holding the successful State Medical Association Meeting in Yankton in June of 1963.

Respectfully submitted,
T. H. Sattler, M.D., Councilor
Eighth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR NINTH DISTRICT

The February 21 meeting was held in Rapid City. The scientific portion of the meeting was a panel discussion on Venereal Disease with presentation by Drs. Lee Cowan, N. R. Whitney and J. T. Elston. Mr. Norman Bredeson, Mr. Ben Diamond and Miss Jo Wulf of the U. S. Public Health, State and County Health Departments discussed the health department laboratory facilities as an aid in the diagnosis of syphilis. At this meeting funds were allocated for the September Medical Seminar to be held in Rapid City. A report from the Pennington County Health Department concerning an alleged epidemic of amebiasis occurring in the eastern portion of Pennington County was presented. The method of diagnosis of this disease was considered to be unorthodox and the matter was turned over to the Grievance Committee for investigation.

Upon request from the Chief of Staff of one of the area hospitals the relationship of an M.D. with an osteopathic hospital was discussed and referred to the Grievance Committee for investigation.

Dr. Everett A. King was elected as a new member of the society and a recommendation for life membership for Dr. F. J. Radusch was proposed and the recommendation forwarded to the council.

The April 9 meeting was held at Ft. Meade, South Dakota. The scientific presentation was made by Dr. Edward M. Litin, Head of Department of Psychiatry, Mayo Clinic, who discussed management of the difficult patient. A resolution for endorsement of the principle of offering scholarship aid to schools of medical technology in this district was introduced and accepted and it was recommended that a $300.00 per year scholarship be made available by the district society.

The May 23 meeting was held at Pactola Lodge. Scientific presentation by Dr. Vincent Fulginiti of the Department of Pediatrics, University of Colorado Medical Center, who discussed "The Current Status of Measles Immunization."

Mr. Jack Donovan, District Sales Manager of Blue Cross — Blue Shield presented a program on group hospitalization for the district society. A resolution was passed and forwarded to the State Medical Association requesting that the state association explore the possibility of establishing a physician group hospitalization plan throughout the state.

The August 9 meeting was held in Spearfish, at which time we held the annual Fish-fry. Mr. Erickson was present but Dr. Hayes, the President of the state association was unable to attend. "Operation Home Town" was discussed. The scientific presentation was made by Dr. William Hamilton, Head of the Department of Anesthesiology, State University of Iowa, who discussed "Respiratory Complications of the Immobile Patient."

The Grievance Committee reported on investigation of an alleged outbreak of amebiasis in Pennington County and a letter from the Communicable Disease Center of the U. S. Public Health Service was read. A member of the Public Health Service had visited the area and examined specimens and specimens had been examined in the Communicable Disease Center; all of which were negative.

Dr. T. F. O'Toole retired in July and a recommendation for an honorary life membership was made to the council.

The October 8 meeting was held in Rapid City at which time the establishment of a medical disciplinary system was discussed. Copies of the Statute of the State of Washington were made available to the district membership for study.

The scientific presentation was made by Dr. Ruben Bareis, who presented "An Unusual Case of Erythrocytosis, Associated with Hepatic Vein Thrombosis and Uterine Fibroids." L. M. Read, M.D.; W. A. Perry, M.D.; G. E. Howe, M.D. and R. J. DesRosiers, M.D. were accepted.

The December 12 meeting was held in Rapid City, at which time a talk was presented by Dr. Walter L. Hard, Dean of the School of Medicine, University of South Dakota. Dr. Hard discussed the developments in medical education and future plans of the school of medicine. Under new business a resolution concerning extension of activities of the State Health Department into the private practice of medicine was discussed and passed. This resolution was forwarded to the Council of the SDSMA for review and action. The following officers were elected for the year 1964: President, Dr. A. M. Semones, Lead, South Dakota. Vice President, Dr. G. S. Paulson, Rapid City. Secretary-Treasurer, Dr. H. L. Frost, Rapid City. Delegates to serve two-year terms, Drs. John Leeds and B. S. Clark with alternate delegates, Drs. Jones, Ruud, Janss, Gilbert and Millea.

The February 13, 1964 meeting was held in Rapid City. The scientific presentation by Dr. Robert S. Jones was a discussion of the West River Mental Health Center and its services. At this meeting a special committee on medical technology and nursing scholarships was set up, however, the request for $300.00 for activities of the scholarship committee was rejected. Plans were established for the Black Hills Medical Seminar to be held on August 7 and 8 and Dr. Paulson briefly reviewed the committee work in preparation for this seminar. A budget figure of $250.00 was allocated for the Black Hills Medical Seminar.

The April 7 meeting was held at the V.A. Center in Hot Springs, South Dakota. Matthew H. Block, M.D., Department of Hematology, University of Colorado Medical Center delivered a lecture on "Abnormal Proteins." A report on recent activities of a chiropractor in Rapid City was made; this individual has apparently been drawing blood and signing pre-marital serologic reports. This matter is to be turned over to the attorney for the State Medical Association office.

Respectfully submitted,
John T. Elston, M.D., Councilor
Ninth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR TENTH DISTRICT

Mostly meetings were held throughout the year in conjunction with the Rosebud Interprofessional Society. Scientific sessions were held which were of interest to the veterinarians, pharmacists and dentists in the Interprofessional Society group as well as the doctors of medicine.

We were honored by a visit from Charles Johnson of the AMA and Dick Erickson of our State Association at our December meeting.

New members of the Tenth District Medical Society are Dr. Shirley Claasen and Dr. L. C. Vogelgesang.

At our January meeting the following officers were elected: R. G. Nemer, M.D., President; Shirley Claasen, M.D., Secretary; M. R. Cosand, M.D., Delegate; and David Studenberg, M.D., Alternate Delegate.

Respectfully submitted,
E. P. Sweet, M.D., Councilor
Tenth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE SECRETARY

The executive office has continued its program of service to physicians during the fiscal year 1963-1964. Personnel changes during the year saw Executive Secretary John Foster leave in February to become the Executive Director of Arizona Blue Cross-Blue Shield. Richard C. Erickson was appointed Executive Secretary and Executive Director of the Association and Blue Shield. Mrs. Patty Butler continues as Administrative Assistant.

Liaison With District Societies

During the year, Mr. Foster visited a number of the District Societies, however the exact figures are not available. Mr. Erickson, both as Assistant and Executive Secretary, attended 16 District Society meetings. He attended the Black Hills and Sioux Falls Societies four times each, Yankton twice, and Brookings-Madison, Pierre, Whetstone, Huron, Aberdeen and Winner once each.

Public Relations

"Operation Hometown" was implemented by the Association this year as an educational program, for both the physician and the public, regarding medical care for the aged. The Association, in conjunction with Blue Shield developed a debate kit for high school debaters, on the negative side of "Health Care for the Aged, Through Social Security." Approximately 1000 kits were distributed to these debaters. Mr. Foster appeared at two debate clinics, plus presenting talks before other groups. Mr. Erickson also gave talks to various groups.

Headquarters Building

During the year we paid all the interest due physicians and retired $2,700.00 in notes. The problem of tax exemption has not yet been resolved; however the attorneys are still working on the matter, and we are in hopes that a decision will be reached in the near future.

Committee Work

Inasmuch as the Association is basically a committee organization, the executive office spends much of its time working with the various committees in carrying out their duties. In all, staff people attended 27 committee meetings, not counting those at the Annual Meeting. There may have been additional meetings which Mr. Foster attended of which we are not aware.

Legislative

As in the past, a great deal of time and effort was spent on State Legislative Activities. This year the Association sponsored two bills and endorsed two other bills. All four bills, including the MAA Amendment, Child Beating, Board of Examiners' Fees and Yankton State Hospital Fee Revision, were passed by the Legislature. With the inception of the annual session, it would appear that more time and energy will have to be devoted to Legislative matters.

Blue Shield and Other Fiscal Programs

The fiscal programs of the Association, which include Blue Shield, Old Age Assistance, and the Army's Medicare program have continued their growth during the past year. Last year Blue Shield had 18,700 contracts in force. As of December 31, 1963, the plan had 22,358 contracts, covering some 70,000 people in South Dakota. Blue Shield paid $682,800.00 in benefits this year. The Old Age Assistance program provided an additional $329,100.00 in benefits paid, and the Medicare program paid out $49,100.00. In total, Blue Shield and its sub-program paid South Dakota physicians approximately $1,060,000.00. Truly our Blue Shield operation has become big business.

The Journal

After a couple of financially bad years, the Journal seems to be making a financial comeback. Prospects for the future are bright, and it is the intent to increase statewide advertising, thus assuring a continued successful operation.

Summary

Your new Executive Secretary would first like to thank the physicians of South Dakota for the wonderful support which they have given me since February of this year. The confidence placed in me is most gratifying. I would like to commend my assistants: Patty Butler, Bob Green, and Randy Tuffs, plus all the office staff for their excellence in performing their duties. Without these people, I would have been lost. Inasmuch as I have only been Executive Secretary for 3½ months, I do not feel that recommendations would be appropriate at this time.

Respectfully submitted,
Richard C. Erickson
Executive Secretary

The Reference Committee recommends the acceptance of this report.

REPORTS OF COMMITTEES AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work submits the following report of the scientific meetings for 1964:

"INFECTION"

"The New Viral Exanthems" — Thomas Geppert, M.D.

"Selection and Use of Antibiotics" — Harold Muchmore, M.D.

"Selection and Use of Anti-Bacterial Drugs in the Treatment of Tuberculosis" — Col. James Weir, M.D.

"Gas Gangrene" — Edward D. Henderson, M.D.

"Acute Ear Infections" — James R. Tabor ,M.D.

"The Management of Tuberculosis in a General Hospital" — Col. James Weir, M.D.

"Meningitis" — Thomas Geppert, M.D.

"Osteomyelitis" — Edward D. Henderson, M.D.

"Lower Urinary Tract Infection" — Edward J. Richardson, M.D.

"Antepartum and Intrapartum Amnionitis" — Irwin H. Kaiser, M.D.

"Bacterial Resistance and Super-Infection" — Harry W. McFadden, M.D.

"Chronic Otitis Media and Mastoiditis" — James R. Tabor, M.D.

"The Radiologist's Role in the Diagnosis of Infections" — Karl A. Youngstrom, M.D.

"Upper Urinary Tract Infections" — Edward J. Richardson, M.D.

"Fatal Obstetrical Infections in Term Pregnancy" — Irwin H. Kaiser, M.D.

Respectfully submitted,
COMMITTEE ON SCIENTIFIC WORK
Kendall Burns, M.D., Chairman
E. W. Sanderson, M.D.
R. E. Van Demark, M.D.
J. B. Gregg, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON LEGISLATION

This is the report of the Chairman of the Committee on Legislation.

Considerable activity occurred within the Legislative Committee of the South Dakota State Medical Association during the year 1963-64. A formal meeting of the Legislative Committee was held on Saturday, September 28, 1963 at the Medical School at Vermillion, South Dakota. Present at that meeting were Drs. R. H. Quinn, R. F. Hubner, Mr. John C. Foster, Mr. Richard C. Erickson, and Mrs. Patty Butler. The Committee heard from T. H. Willcockson, M.D., of Yankton.

The present status of the M.A.A. program was reviewed at that time and the Committee went on record approving further efforts by physicians in the State to defeat legislation to provide medical care for the aged through Social Security.

The Committee then considered the proposal submitted by the Bar Association regarding physician's confidential relations privilege. The Committee recommended to the Council that the State Medical Association endorse the proposal of the Bar Association. This was passed by 2 to 1 vote.

The Committee discussed the sterilization law of North Carolina and this motion was tabled.

The Committee considered the recommendation of the Workmen's Compensation Committee that legislation be introduced at the next session of the Legislature providing for appointment of the Industrial Commissioner for a six-year term by the Governor. It was moved that the Committee recommend to the Council that steps be taken by the Association's legal advisors to determine the activities necessary to accomplish this change and that the Association endorse the proposal to increase the continuity in the office of the Industrial Commissioner.

The Committee considered the proposed law to set up a graduated system of charges for the care of the mentally ill at Yankton State Hospital.

The Committee considered the recommendation of the Yankton District Medical Society that changes be made in the law regarding the appointment of the members of the Board of Medical Examiners. A recommendation was suggested that letters be written to each member of the Board of Medical Examiners to get their reaction to the proposed changes, with an explanation of the intent of Yankton District in proposing them.

The $2.00 annual registration fee of the Board of Medical Examiners was discussed. The Committee recommended to the Council that the State Medical Association endorse a $5.00 annual registration fee for all licentiates of the South Dakota Board. The motion was passed.

The matter of Federal legislation in the field of mental illness was discussed. The Committee discussed legislation on the "Child Beating Syndrome."

The Committee again met on January 18, 1964 at the Sheraton Cataract Hotel in Sioux Falls, South Dakota. Members present were Drs. Tank, Sweeny, Hubner and Quinn and the staff members of the South Dakota State Medical Association. The following matters were considered:

1. Consideration of American Legion's "Child Beating Law."
2. Consideration of replies from Districts on Medical Disciplinary Law.
3. Reply from Attorney on Industrial Commissioner's terms.
4. Report on Kerr Mills Legislation.
5. Consideration of bill on Redfield charges.
6. Report from Bar Association on proposed law to change physicians' confidential privileges.
7. Referral by Council for study on availability of funds for indigent adults in need of cardiac surgery.
8. Letter from Attorney on change in the wording of Medical-Corporation Act.
9. Note from Bob Hofer on wording of law on insanity hearing.
10. Bielski law.

The following bills introduced into the South Dakota State Legislature 1964, were endorsed by the Association.

House Bill 511 Child Beating Bill.

House Bill 520 amending M.A.A. law of 1963 which would allow Welfare Department to make direct payments to vendors, thus destroying the "insurance pre-payment principle."

House Bill 551 raising Board of Medical Examiners annual registration fee to $5.

BILLS OF INTEREST

Senate Bill 9 proposed lowering percentage of alcohol in blood-alcohol test from .15 to .10.

Senate Bill 95 obligates partial payment by parents for care at Redfield State Hospital.

Senate Bill 98 Introduced by Senator Art Jones, proposes "Full" M.A.A. Program. Bill referred to Senate's Health and Welfare Committee.

Senate Bill 139 a companion appropriations bill to S. B. 98. Bill would appropriate $150,000.00 for fiscal year ending June 1965.

Proposed Abortion Bill Will not be introduced this session.

The results of the endorsement of the Medical Association turned out to be 100% during the legislative session of 1964.

A resume of the activities of the Legislative Committee was presented by me at the North-central Conference in Minneapolis.

The Legislative Committee will meet again prior to the State Medical Society meeting in 1964.

The Chairman of the Committee congratulates the Staff of the South Dakota Medical Association in its excellent job of aiding all endorsed bills through the State Legislature, especially House Bill 520, amending the M.A.A. law of 1963.

Respectfully submitted,
Robert H. Quinn, M.D., Chairman
T. A. Angelos, M.D.
M. C. Tank, M.D.
T. E. Mead, M.D.
W. T. Sweeny, M.D.
R. F. Hubner, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE PUBLICATIONS COMMITTEE

During the past fiscal year, the **South Dakota Journal of Medicine and Pharmacy** published 832 pages, an increase of 8 pages over the year before.

The advertising showed a decrease of 75⅛ pages, for a total this year of 385⅝ pages.

Respectfully submitted,
PUBLICATIONS COMMITTEE
R. E. Van Demark, M.D., Chairman
G. S. Paulson, M.D.
John B. Gregg, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

The 1963 annual meeting of the Reference Committee recommended that the Committee on Medical Defense and the Medical-Legal Conference Committee on Medical Defense and the Medical-Legal Conference Committee be combined and the function of the combined committee then be explained to the members of the association. This recommendation was adopted by the House of Delegates.

By action of the House of Delegates, the Medical Defense Committee no longer functioned as a single committee, no cases were reported to the committee, and no joint committee meeting was called. Therefore, there is no report.

Respectfully submitted,
COMMITTEE ON MEDICAL DEFENSE
A. P. Reding, M.D., Chairman
J. W. Donahoe, M.D.
C. B. McVay, M.D.
C. E. Roberts, Jr., M.D.
Warren Peiper, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION AND HOSPITALS

The Medical School Affairs Committee met October 12, 1963 and March 21, 1964. Reviewed the endowment fund and the granting of loans. Received a report as to Medical School admissions as followed by the School of Medical Sciences. Went over the report of the joint commission's examination of the school. Offered our help to the Medical School in propagandizing the doctors concerning Medical School admissions.

Yours very truly,
T. H. Willcockson, M.D., Chairman
F. R. Williams, M.D.
Warren Jones, M.D.
E. T. Lietzke, M.D.
T. J. Wrage, Jr., M.D.
R. C. Jahraus, M.D.

The Reference Committee on Reports of Standing Committees has reviewed the report of the Medical School Affairs Committee. In connection with this subject and also in discussion with respect to an adverse attitude by the Accreditation Commission on Medical Schools toward our Preceptor Program in South Dakota and in order to express the sentiments of those heard by the Reference Committee and to express its own feelings on this subject, the following resolution is introduced by this Reference Committee:

WHEREAS: The Preceptor Program in medical education at the University of South Dakota has been an established part of the curriculum for more than fifteen years, and

WHEREAS: It has proven to be a valuable training to medical students in providing them an insight into the day-to-day experiences of medical practice in our State and giving them a sense of orientation by their opportunity to observe the over-all picture of medical practice, thus encouraging a substantial percentage of students to look with favor upon a career in general practice, and

WHEREAS: The prevailing opinion of past graduates indicates that such training has been of outstanding value to them during their subsequent years of medical education and even in active practice, and

WHEREAS: The recent Accreditation survey of our medical school questioned the value of this month of training and implied that such time could be used more productively in other phases of medical education, and

WHEREAS: This critical attitude may result from a lack of sufficient representation by practicing physicians on the Medical School Accreditation Committee of the American Medical Association,

THEREFORE BE IT RESOLVED: That the House of Delegates of the South Dakota State Medical Association present a resolution to the American Medical Association House of Delegates meeting in San Francisco in June, 1964, requesting a review of the composition of this Accreditation Committee with the purpose in mind of including in its membership a greater number of actively practicing physician members to the end that medical education may be more responsive to the needs of the nation for actively practicing physicians and an increased number of general practitioners.

BE IT FURTHER RESOLVED: That our Delegate to the American Medical Association be instructed to introduce this resolution at the 1964 annual meeting of the American Medical Association in San Francisco.

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

At the June 10, 1963 meeting of the Council, the Medical Economics Committee was charged with the responsibility of studying and reviewing the loss-of-time insurance programs currently endorsed by the State Association. The committee was directed to study the programs in depth, to analyze both long and short range aspects of the programs, and to report its findings to the Council in January, 1964.

Prior to any committee meeting, all committee members were given background material relating to each of the two insurance companies currently writing loss-of-time insurance for our association. This material included the data submitted to the Council by the companies as well as additional material obtained following correspondence with each group. In addition to these materials, committee members received copies of a detailed analysis of both companies presented by the AMA Chicago office.

Committee meetings were held on November 22 and December 11, 1963. All committee members were present at both meetings. Mr. John Foster was present at the December 11 meeting of the Committee.

At the first committee meeting, previously obtained material was analyzed in detail by the Committee. All phases of the problem were explored. Some of the major factors considered were these: (1) the advisability and desirability of an association of our size having more than one approved group program; (2) the relative merits of group franchise and master-policy certificate type insurance mechanisms; (3) the relative strength of each of the two insurance companies involved; (4) the experience in group loss-of-time business of each of the two companies involved.

As a result of the initial meeting of the Committee, a series of questions were presented to Harold Diers and Company. In response to this inquiry, Harold Diers and Company provided the Committee with figures for total claims, total premiums, and loss ratio for the years 1957, 58, 59, 60, and 62. The company also agreed to have the Committee act as arbitrator on any disputed claim.

The Committee makes the following recommendations to the Council:

1. The SDSMA should continue its approval of the Harold Diers & Company group loss-of-time program.
2. Further efforts to form a second group through the Combined Insurance Company of America should be discontinued.
3. For the foreseeable future, only one group loss-of-time program should be given approval by the State Association.
4. The SDSMA should make every effort to cooperate with and promote the group loss-of-time program currently written by Harold Diers & Company.
5. Members of the State Association should be advised in detail of the above actions; members should be further advised that if they currently have coverage with Combined Insurance Company of America that they may obtain similar coverage from Harold Diers & Company without evidence of insurability.

Respectfully submitted,
COMMITTEE ON MEDICAL ECONOMICS
John J. Stransky, M.D., Chairman
Carroll J. Clark, M.D.
Donald L. Scheller, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON NECROLOGY

The Committee reports the following deceased physicians in the State during the past year:

R. R. Fisk, M.D., Flandreau, passed away in June, 1963.
James R. Byrne, M.D., Edgemont, passed away in November, 1963.
Guy E. Van Demark, M.D., Sioux Falls, passed away in November, 1963.
J. Cook, M.D., Bonesteel, passed away in October, 1963.
M. W. Pangburn, M.D., Miller, passed away in March, 1964.
Henry C. Deiley, M.D., Emery, passed away in March, 1964.

Respectfully submitted,
COMMITTEE ON NECROLOGY
Margaret Faithe, M.D.
F. C. Totten, M.D.
E. H. Peters, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

The Resolution, presented by the South Dakota Society of Pathologists to the Council on January 18, 1964, was given to the Committee on Public Health for consideration.

The magnitude of the resolution necessitated considerable exchange of communications, which have not been completed; thus, a satisfactory report cannot be prepared in time for the State Medical Association proceedings.

We recommend that the current Committee on Public Health be permitted to finish this matter, although a new committee will assume other duties when appointed.

Respectfully submitted,
COMMITTEE ON PUBLIC HEALTH
N. E. Wessman, M.D., Chairman
Wm. E. Jones, M.D.
Walter H. Patt, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CANCER

The following physicians are members of the Executive Board of the South Dakota Division of the American Cancer Society: G. F. McIntosh, M.D., President; W. A. Geib, M.D.; D. H. Breit, M.D.; L. C. Askwig, M.D.; E. G. Huppler, M.D.; and Paul V. McCarthy, M.D.

The funds raised by the annual drive of the Cancer Society in South Dakota were disbursed by the plan of the Society as follows:

RESEARCH

Crusade funds to the American Cancer Society's nation-wide program, $29,105.00. This year we added an extra $5,000.00. Supported two projects at the University of South Dakota Medical School, $6,476.00.

PROFESSIONAL EDUCATION

Furnished speakers for the South Dakota Medical Association Meeting and the Medical Technician Institute at the University of South Dakota Medical School.

Sent five graduate nurses from teaching and supervisory nursing positions in South Dakota to a three-week workshop course in Oncology at New York University. Cost of this project was $3,500.00.

Training of two cytotechnicians (six-month's course). Cost $3,600.00.

Supported seven Cancer Registries.

Support of Tumor Clinic, Sacred Heart Hospital in Yankton. Cost $3,000.00.

Subscriptions to professional magazines CA and

Cancer Bulletin to 362 physicians and medical students.

Monographs on Oral Cancer to 212 dentists.

Series of publications by the Institute of Pathology of the Armed Forces furnished to pathologists in the state.

Films, pamphlets, and reprints furnished for students in nursing schools and schools of Practical Nursing.

LAY EDUCATION

Speech therapy for laryngects — working with Dr. Sylvester Clifford, Director of the Speech and Hearing Clinic at the University of South Dakota. Participation, results, and fellowship excellent in the NU Voice Club.

Emphasis on Pap Smear this year, especially through Catholic Women's Groups.

Special emphasis on smoking, through films, filmstrips, materials in school and public libraries. Demand for other area materials also. Use of posters and pamphlets.

SERVICE

Dressing materials, drugs, loan closet items, limited financial assistance to Cancer patients.

Respectfully submitted,
COMMITTEE ON CANCER
Paul V. McCarthy, M.D., Chairman
M. S. Grove, M.D.
E. H. Collins, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON DIABETES

No report.

Respectfully submitted,
COMMITTEE ON DIABETES
Gordon Paulson, M.D., Chairman
E. W. Sanderson, M.D.
R. F. Thompson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON TUBERCULOSIS

The Committee on Tuberculosis met and the following recommendations were made:

1. Initial treatment centers be established in several medical centers in the State where physicians may refer private patients for diagnosis, evaluation, initial treatment, and surgery of tuberculosis patients. Follow-up treatment should be done by the private physicians throughout the State with overall control under the supervision of the State TB Control Officer.
2. The Committee or Commission review the credentials of medical and surgical specialists in South Dakota who are interested in being appointed to the staffs of the initial treatment centers. The requirement for the medical specialist should be three years training in Internal Medicine. The requirement for surgical specialist should be three years training in general surgery and two years in thoracic surgery.
3. The Legislature not be approached for monies for an extensive building program until a definite need is determined.
4. In view of the fact that a doctor of medicine has not been obtainable for the position of TB Control Officer a lay individual, qualified in medical administration or public health, be hired immediately to implement the law.
5. That an intensive information program be carried on throughout the State informing the physicians of the objectives and procedures to be followed in implementing the program.

Respectfully submitted,
COMMITTEE ON TUBERCULOSIS
R. E. Nelson, M.D., Chairman
R. G. Gere, M.D.
Gordon Paulson, M.D.

The Reference Committee recommends the acceptance of this report, but suggests that the second sentence of the second paragraph be amended to read as follows:

"Board eligible or board certified in general surgery including some experience in thoracic surgery, or one who is qualified in the opinion of the Committee."

The Committee further recommends that the third sentence of the second paragraph concerning Medical Specialists be changed to read as follows:

"Should be a physician who has a special interest in treating tuberculosis and who is qualified in the judgment of the Committee."

The Committee suggests that paragraph four should include the statement that "a continued effort should be made to find a qualified physician for the position of Tuberculosis Control Officer."

The Committee also suggests that the following be added to the final sentence of the report, "in cooperation with the State Department of Public Health."

REPORT OF COMMITTEE ON MATERNAL AND CHILD WELFARE

No report.

Respectfully submitted,
COMMITTEE ON MATERNAL
AND CHILD WELFARE
Fred Stahmann, M.D., Chairman
E. W. Sanderson, M.D.
R. F. Thompson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE COMMITTEE

The first business of the Executive Committee arose at the State meeting in Yankton in 1963 at which time the Ophthalmologists presented a request for consideration of the Fee negotiated by the Welfare Board. It was decided that this should be referred to the Council since it was more properly Council Business and could be discussed more in detail at that time.

The next consideration of this item was taken up by the Council on October 6, 1963 at which time it was referred by the Council to the Fee Advisory Committee for study and recommendation. Accordingly, this was done. The other business of the Executive Committee in 1963-64 was chiefly that of accepting the resignation of John Foster as State Executive Secretary and the appointment of Richard Erickson to the same position. This was accomplished by a conference phone call and in turn the details of the meeting were presented to the Council as a whole by conference telephone call.

The Executive Committee sat in session on January 18, 1964 at which time the budget was presented, reviewed and amended. The report, of course, will be forwarded to the House of Delegates for adoption. Otherwise, the business of the Executive Committee was nonofficial and could more aptly be referred to as social.

Respectfully submitted,
EXECUTIVE COMMITTEE
R. H. Hayes, M.D.
J. P. Steele, M.D.
Paul Hohm, M.D.
A. P. Reding, M.D.
R. R. Giebink, M.D.
E. J. Perry, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE GRIEVANCE COMMITTEE

A District Medical Society had signed a complaint against a doctor in its own District who was

making many diagnoses of amoebic dysentery on the basis of urinary findings. The State Health Department cooperated in this investigation and it was explained to the doctor that it was very difficult to diagnose amoebic dysentery in this way. The Committee wrote the doctor involved and informed him that continued diagnoses, based on this method, would warrant the grievance being turned over to the Board of Medical Examiners for investigation.

Another grievance was one against a doctor by a gentleman who complained that the doctor was quite rude to his wife. The Grievance Committee did not consider this to be a serious complaint and asked one of its members to talk to the doctor involved. A letter was sent to the complainant informing him that this was actually a personal matter between himself and the doctor.

A joint grievance was made by two patients against a doctor who, they maintained, had performed a face-lifting operation on them with unsatisfactory results. The Committee interviewed one of the complainants and looked at pictures taken before the operation and came to the conclusion that the complainants should talk the matter over with the doctor involved and a more satisactory settlement might be made on the bill.

A grievance against a hospital in a certain area was filed by a doctor who had been refused admission to the staff. This grievance is still under investigation by the committee and it does not appear that there will be any ready solution. However, at the time this report is being written, the committee has not discussed the final steps to be taken in this matter.

Respectfully submitted,
GRIEVANCE COMMITTEE
C. J. McDonald, M.D., Chairman
M. M. Morrissey, M.D.
A. A. Lampert, M.D.
R. A. Buchanan, M.D.
Magni Davidson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MENTAL HEALTH

During the last year your Mental Health Committee has been active in a number of fields.

This last year the State Committee on Mental Health, the American Academy of General Practice and the Psychiatrists, both in private and in public institutions in the State of South Dakota have brought about two clinics or symposiums during which the furthering of the education of the General Practitioner was accomplished. A final meeting for the year was held on the 22nd of April, 1964 at Yankton at which time we discussed treatment, classification of patients and tried to aid our General Practitioners in the handling and sorting of psychiatric cases. This, we feel, has been successful although we expect the program for next year to cover some of the inadequacies of this year's program and to aid and abet the furthering of psychiatric education for our state physicians.

The Chairman of the Committee has attended a number of meetings in the past year, all aimed at the establishment and the improvement of mental health facilities throughout the State of South Dakota.

It is hoped that our efforts to bring about these facilities in conjunction with those committees interested in mental retardation will be furthered in the very near future. The Executive Committee of the State group will meet on the 27th of April, 1964 and the first state-wide meeting will be on the 15th and 16th of May, 1964. Present plans call for organization and progression towards the establishment of a much better mental health program.

The Chairman of the Committee also wishes to point out that the Mental Health Center in Rapid City is still being headed by Doctor Robert Jones. Doctor Edward Spicer is still associated with the Center in Aberdeen. Doctor Walter Gysin recently joined the Mental Health Center in Watertown, replacing Doctor Richard Leander who had been giving them one day a week for the past several years. Doctor Henry Davidson is still servicing the Center at Brookings. Doctor Carlos Mendoza is servicing the Center at Huron and Doctor LeRoy Bastian is now the Clinical Director of the Minnehaha Guidance Center in Sioux Falls.

Our coverage is becoming more and more adequate and with our plans for a concerted drive for mental health in the State, combining all disciplines, we have hope of improving the mental health status throughout the State in the next several years to come.

I feel that we have had a relatively successful year and the hopes for next year are considerably brighter.

Respectfully submitted,
MENTAL HEALTH COMMITTEE
R. B. Leander, M.D., Chairman
J. C. Hagin, M.D.
R. S. Jones, M.D.
L. G. Behan, M.D.
David Buchanan, M.D.
C. F. Binder, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE BENEVOLENT FUND COMMITTEE

It is well to remind the membership that this fund was established during the depression years with several physicians in dire need. This sad situation was early appreciated by the Medical Auxiliary, and after many conferences this fund was established by the State Medical Association. Since then, the Auxiliary has contributed annually and a per capita allotment was made by the State Association. Good times soon followed, but has always been considered a wise safeguard and a good saving.

When it reached $10,000.00, it was put to use in part, in small loans to needy medical students at 4% interest on the recommendation of the State Medical School Dean. Since then 22 loans have been made, 5 repaid, and all interest paid. It is the earnest wish of this Committee that this fund be always maintained and zealously safeguarded.

The financial statement is as follows:

April 1, 1963		
	Government Bonds	$3,000.00
	Bank Balance	3,068.37
	Loans, including 1 repaid in '63	6,800.00
Income		
Interest; bonds, savings account, loans		$655.00
Medical Auxiliary		329.00
South Dakota State Medical Association		400.00
		1,384.00
		14,252.37
April 1, 1964		
	Government Bonds	$3,000.00
	Loans, 17 (including 2 new ones)	7,200.00
	Bank Balance	4,052.37
		$14,252.37

Respectfully submitted,
BENEVOLENT FUND COMMITTEE
Will E. Donahoe, M.D., Chairman
John C. Hagin, M.D.
F. C. Totten, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE

The Rheumatic Fever Program started in 1958 in cooperation with the South Dakota Heart Association, the State Pharmaceutical Association, the State Department of Health and the State Medical Association.

This Secondary Prevention Program provides Penicillin to medically indigent R. F. patients.

In 1958, 48 patients went on the program
In 1959, 131
In 1960, 95
In 1961, 139
In 1962, 129
In 1963, 91
In 1964, 17 patients thus far (April, 1963)

A total of 650 patients have been registered since the start of the program in 1958. Of these, 269 have discontinued for various reasons, 66 are inactive and 364 are active on the program.

Over one hundred towns and cities are represented on the program. Periodically, the SDHA call attention to the fact that this program is available. This is done by sending a form letter to all registered pharmacists and all physicians on the Association's mailing list.

Pharmacists and Physicians have been urged to continue to utilize the necessary forms available from the State Heart Association for patients wishing to participate in the program. This is the only method that the SDHA has for patient control, and the keeping of records of how many patients are benefitting from the program.

Respectfully submitted,
COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE
J. W. Argabrite, M.D., Chairman

The Reference Committee recommends the acceptance of this report.

SPECIAL COMMITTEES

REPORT OF THE COMMITTEE ON RADIO BROADCASTS AND TELECASTS

No report.

Respectully submitted,
COMMITTEE ON RADIO BROADCASTS AND TELECASTS
Loren Amundson, M.D., Chairman
P. S. Nelson, M.D.
E. H. Peters, M.D.
R. A. Boyce, M.D.
F. D. Leigh, M.D.
S. B. Simon, M.D.
T. H. Willcockson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EDITORIAL COMMITTEE

The Editorial Committee wishes to thank all contributors for their efforts in behalf of the State Journal. We especially appreciate contributions from South Dakota physicians for the State Journal, and it was recommended that all speakers at these district meetings be contacted by the secretaries of the respective districts for copies of the paper for the State Journal.

The past year nine papers were received from eleven out-of-state doctors.

Respectfully submitted,
EDITORIAL COMMITTEE
R. E. VanDemark, M.D., Chairman
J. A. Anderson, M.D.
W. R. J. Kilpatrick, M.D.
G. E. Tracy, M.D.
H. B. Munson, M.D.
R. F. Thompson, M.D.
Hugo Andre, M.D.
John B. Gregg, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL LICENSURE

The State Board of Medical and Osteopathic Examiners met on the regularly appointed times of July 23, 1963 in Rapid City and January 21, 1964 in Sioux Falls.

During the course of these examinations, 22 physicians were licensed by reciprocity and 13 by examination; 5 temporary licenses were changed to permanent licenses by Board action.

During the course of regular business during the year, two cases of unprofessional conduct against duly licensed physicians in the State were carried out and a formal hearing was held with one of the so-charged physicians. After reviewing the evidence and questioning witnesses, following an investigation carried on by the Attorney General's office, the physician was censored. The charges against the second physician were dropped after reviewing the evidence available since there was insufficient evidence to substantiate the charges.

A hearing for suspension of a physician was set up. Disciplinary action was taken on another practicing physician. A temporary license was revoked and the Central Information Clearing Bureau of the Federation of State Boards of Medical Examiners was so notified.

An investigation was carried out on another physician for purposes of determining whether the U. S. mails were being used for drugs and whether the FDA regulations and pharmacy rules were being breached. This investigation is currently underway and final action has not been taken. Another investigation was carried on concerning a physician whose license has been suspended to determine if this physician was practicing without a license. This investigation is also currently being carried out and no final disposition has been made at this time.

The problem of whether or not South Dakota would recognize Cuban medical diplomas even though certificates of registration were not available was discussed and it was decided if these applicants had been properly screened and held a valid permanent certificate from the Educational Council for Foreign Medical Graduates they would be considered for licensure in South Dakota.

Another matter for discussion during the regular session was the matter of indiscriminate locations of hospitals with Hill-Burton financing without regard to any planning or to the effects that creation of new hospitals have on already established hospitals. The Board could take no official action however the Board felt this matter should be made known to the State Associations so that possibly some recommendations could come out of that end.

A meeting was held with representatives of the Board of Medical and Osteopathic Examiners and the Board of Basic Science Examiners. Through this meeting a much better understanding of the problems of the respective Boards came to light and it is felt that the two Boards are now, and will continue to be, on a much more cooperative basis with regard to the licensing of physicians in our State.

The annual meeting of the Federation of State Boards which was held in Chicago on February 8-11 was attended by myself as representative of the South Dakota Board of Examiners.

During the course of the regular business session the regulations for the State Board of Medical and Osteopathic Examiners was reviewed and the regulations are included in their entirety for the physicians' review.

REGULATIONS
South Dakota State Board of Medical and Osteopathic Examiners

Regulations adopted by the Board from July 1, 1949, to July 1, 1963, are hereby repealed. The fol-

lowing regulations are those adopted by the Board, July, 1963:

Regulations

1. Licensure by examination
   a. No person shall practice medicine or osteopathic medicine, surgery, obstetrics or any of their branches in the State of South Dakota unless he shall have made application to the State Board of Medical and Osteopathic Examiners and in such a manner as shall be adopted and prescribed by said Board, and will have obtained from said Board, and possesses in full force and virtue, a valid license to do so.
   b. Each applicant for a license must be a citizen of the United States or shall have declared his intention of becoming a citizen (Chapter 106, Session Laws 1949), and must make an affidavit setting forth his age, place of residence, preliminary education, time and place of each course of medical lectures, and date of graduation. Blank forms can be secured from the Executive Secretary. The affidavit must be corroborated by the exhibition of his diploma; and he must also furnish with his application an unmounted photograph of himself taken within the preceding year. The applicant shall certify that the photograph is a true likeness of himself. The photograph shall remain the property of the Board.
   c. Each applicant must present a certificate indicating that he has fulfilled the requirements of the Basic Science Act, Chapter 104, Session Laws of 1939.
   d. A fee of Forty Dollars ($40.00) must accompany each application. No portion of this fee is returned in case of failure, or failure to appear.
   e. On and after July 1, 1949, the State Board will recognize as reputable medical colleges, only those colleges classified and recognized as Class A by the Council on Medical Education and Hospitals of the American Medical Association.
   f. On and after July 1, 1949, the State Board will recognize as reputable osteopathic medical colleges only those colleges classified and recognized as "approved" by the Bureau of Professional Education and colleges of the American Osteopathic Association.
   g. Hospital Internship — Applicants for license must present a certificate showing that he has served not less than one year as an intern in a thoroughly equipped Standard Hospital or Hospitals, approved by the Board; or its equivalent determined by the Board.
   h. Regular examinations will be held at 9:00 A.M. not less than twice a year at such places as the Board may designate. Examinations shall be written, must be conducted in the English language and shall include anatomy, physiology, chemistry, pathology, bacteriology, therapeutics and practice of medicine, surgery, obstetrics, gynecology, diseases of the eye, ear, nose and throat, medical jurisprudence, skin and venereal diseases, hygiene and sanitation, and in addition applicants trained in osteopathic medicine shall take an additional examination in the application of osteopathic fundamentals. (Chapter 3, Session Laws 1949, Section 5.)
   i. Candidates are not permitted to communicate with each other in any manner whatever, during the examination; to consult notes or books or use any dishonest or unfair means of securing or imparting information. Any candidate who disregards this rule will be ineligible for further examination.
   j. Each candidate will be required to appear in person before the Board for identification and at the same time must present his diploma for verification.
   k. A general average of seventy-five per cent and not less than sixty per cent in any subject must be attained in order to secure a license.
   l. Each applicant is known by his number which is arranged as follows: Envelopes are numbered and each contains a blank card bearing the corresponding number on which the applicant writes his name, address and year of graduation. The completed blank is returned to the envelope and the envelope is sealed by himself.
   m. Each applicant will place upon his answer paper, the number given him, the year of his graduation and the subject upon which he is writing. No other marks of identification must appear, if so, said papers will be discarded and no credit given for the answers thereon.
   n. All applications for license, together with the fee for same, must be in the hands of the Executive Secretary prior to the day of examination.

2. Licensure by reciprocity
   a. A physician may apply for licensure by reciprocity, provided:
      1. The State from which he seeks reciprocal licensure shall have reciprocal or endorsement agreements with the South Dakota Board.
      2. He presents certification showing an average grade of not less than seventy-five per cent and that the subjects in which he is examined are essentially the same as those given in South Dakota and are acceptable to the Board as being "essentially the same."
      3. He shall submit his application on the form prescribed by the Board and pay a fee of $90.00.
      4. He shall show evidence of graduation from a Class A approved medical or osteopathic college.
      5. He presents a valid South Dakota Basic Science Certificate.
      6. He presents a current license valid in the State from which he seeks reciprocity.
      7. He is a citizen of the United States or has declared to the United States Government, in writing, his intention to become a citizen.
   b. Licensure by reciprocity may be accomplished in person at any regularly scheduled meeting of the Board or between meetings of the Board by presenting his credentials to two members of the Board at their business addresses and to the executive office of the Board.
   c. Credentials needed for presentation include South Dakota Basic Science certificate, previous state's license, internship certificate and medical school diploma.
   d. Hospital Internship — Applicants for license must present a certificate showing that he has served not less than one year as an intern in a thoroughly equipped Standard Hospital or Hospitals, approved by the Board; or its equivalent determined by the Board.
   e. Only those licensed through examination are eligible for a license through reciprocity. A license or certificate issued in another state through reciprocity is not acceptable for reciprocal registration in South Dakota.

f. No medical college which accepts or graduates students without meeting the requirements relating to the preliminary education as pre-requisite to medical education will be considered in good standing by the Board. Copies of the medical practice act and rules and regulations regarding examinations of candidates for license to practice medicine or osteopathic medicine, for surgery, and obstetrics in this state may be secured by addressing the Secretary of the State Board of Medical and Osteopathic Examiners.

3. Licensure of foreign graduates
   a. Graduates of medical schools outside the United States and Canada and not approved by the Board must hold a permanent certificate in the Educational Council for Foreign Medical Graduates.
   b. Such foreign graduates shall produce evidence of having received an internship of not less than one year's duration in the United States or residency training that the Board considers to be equivalent to such internship .
4. Duplicate license
   In all cases where a duly qualified and legally licensed practitioner in the State of South Dakota shall make application to the State Board of Medical and Osteopathic Examiners for a duplicate certificate of license, where the original has been destroyed by fire or other sufficient reason, he shall make application accompanied by a proper affidavit and setting forth the facts as they may be, together with a cost deposit of $5.00. The Secretary of the State Board of Medical and Osteopathic Examiners shall procure the duplicate certificate of license and forward same to the applicant.
5. Temporary licenses
   A temporary license for a period of four years may be issued to a foreign medical school graduate who does not comply with Regulation 3, above, under the following conditions:
   a. He has failed to pass the E.C.F.M.G., or
   b. He has not received an internship or its equialent in the United States, and
   c. He accepts a position in a State-owned and operated institution on a full-time basis.
   d. He shall pass the Basic Science Examination and receive a valid certificate.
   e. He shall pass the Boards regular examinations.
   f. Such license shall be valid only while such license holder is employed in an institution designated in (5)c above.
   g. Upon completion of the four years, the Board, at its discretion, may issue a full license without further examination.

The Board discussed at some length the future dates for examinations. The dates are: July 21-22, 1964, Rapid City. February 12-13, 1965, Sioux Falls. These dates were changed from the usual dates in order to more closely coincide with the Basic Science Board examinations in order to permit applicants to complete both examinations more easily.

One physician who had been on probation and had had limitations on his practice imposed by the Board, appeared before the Board and after reviewing his file and progress report it was determined that his 3½ year period of restriction had been satisfactorily completed inasmuch as the stipulations were all met, therefore all conditions of supervision were removed and this physician is now permitted to practice unrestrictedly.

The resignation of John Foster was accepted with extreme reluctance and a vote of appreciation for all of the dedication and fine service to the Board was made. The Board named Richard C. Erickson as Executive Secretary to replace Mr. Foster.

Respectfully submitted,
COMMITTEE ON MEDICAL LICENSURE
G. R. Bartron, M.D., Chairman
R. A. Buchanan, M.D.
Wayne Geib, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON VETERANS ADMINISTRATION AND MILITARY AFFAIRS

No Report.

Respectfully submitted,
COMMITTEE ON VETERANS ADMINISTRATION AND MILITARY AFFAIRS
R. R. Giebink, M.D., Chairman
Loren Amundson, M.D.
C. S. Roberts, M.D.
T. J. Billion, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF COMMITTEE ON PREPAYMENT AND INSURANCE PLANS

The duty of this Committee is to meet and discuss problems referred to it by the State Society or the Blue Shield Plan.

The Blue Shield Plan was able to solve its own problems at their Board of Directors meeting and therefore did not need to refer any problems to the Committee. Neither did the State Society refer any problems to this Committee. Because there were no problems referred to the Committee, no meeting was necessary. The Committee did not meet during the year 1963-64.

Respectfully submitted,
COMMITTEE ON PREPAYMENT AND INSURANCE PLANS
Paul Hohm, M.D., Chairman
H. Russell Brown, M.D.
E. A. Johnson, M.D.
J. T. Elston, M.D.
B. F. King, M.D.
D. H. Breit, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON RURAL HEALTH

The Chairman of the Committee attended the National Rural Health meeting at Columbus, Ohio. It was an excellent meeting and the emphasis was on the health and educational guidance of rural youth.

This Committee held no formal meetings but the following recommendations were discussed by long distance telephone and agreed on by all members.

Recommendation I

1. A course in first aid should be given in high schools, either optional or required. A standard guide nationally recognized as the First Aid Textbook prepared by the National Red Cross may be used. Towards the end of the school year actual examinations and demonstration may be made under medical supervision by a physician. The benefits of this course are many. In case of an emergency the student will know how to give first aid to himself, to his family, his friends and strangers. Other indirect benefits are that first aid training is an important aspect of Civil Defense and that it makes people safety conscious.

Another possibly greater benefit may well be that more young people will become interested in health careers, and therefore more people may go into the nursing and medical profession.

Before this recommendation was made the Superintendent of the State Educational Depart-

ment was consulted and also high school teachers of first aid classes in physical education. The above recommendation was endorsed by them.

Recommendation II

2. Some nurses training should be made available in small hospitals. There are many young intelligent high school graduates who are never going to take up nursing but who are capable and can give excellent service in the field of nursing.

This can be an on the job training program under medical supervision.

Respectfully submitted,
COMMITTEE ON RURAL HEALTH
G. J. Bloemendaal, M.D., Chairman
E. F. Kalda, M.D.
Robert Stiehl, M.D.

The Reference Committee has considered this report and recommends that the two recommendations contained in the report be referred to the Council for further study and discussion at the September Council meeting.

REPORT OF THE COMMITTEE ON NURSES TRAINING

No report.

Respectfully submitted,
COMMITTEE ON NURSES TRAINING
B. O. Lindbloom, M.D., Chairman
C. L. Vogele, M.D.
T. R. Anderson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON WORKMEN'S COMPENSATION

No report.

Respectfully submitted,
COMMITTEE ON WORKMEN'S COMPENSATION
J. J. Feehan, M.D., Chairman
John Burleigh, M.D.
W. B. Odland, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CLINICAL PATHOLOGY

The Clinical Pathology Committee met in Mitchell, S. Dak. in October, 1963. Those present were Drs. Vose, Myrabo, Knabe, Lardinois and Geib. Plans were formulated for the Medical Technology workshop which will be held in Vermillion, May 14 through 16th, 1964. The following programs will be presented:

Hematology — Dr. John W. Rebuck, Henry Ford Hospital, Detroit
Blood Banking — Day Reagent, Inc. of Miami, Florida
Fluorometric Applications — Turner Associates of Palo Alto, Calif.
Microbial Contamination in Hospitals — Donal Vesley, U. of Minn.
Parasitology — Department of Microbiology, U. of South Dakota
Electrocardiography—Department of Physiology, U. of South Dakota

It is anticipated that approximately 75 clinical laboratory workers from South Dakota will attend.

Respectfully submitted,
COMMITTEE ON CLINICAL PATHOLOGY
W. Geib, M.D., Chairman
J. Vose, M.D.
A. Myrabo, M.D.

The Reference Committee recommends the acceptance of this report. The Reference Committee also believes that this Committee should be commended for the fine Medical Technology Workshops which they have set up.

REPORT OF THE COMMITTEE ON REHABILITATION

The current problem that is facing the Committee on Rehabilitation is to see whether we can be of any help in solving the problem which pertains to finances of long term or involved medical treatment cases with particular reference to the current problem of a case that required cardiac surgery. This, at present, is being studied by each individual member and will be reviewed at the meeting of the committee on the 1st of June.

The other problem that is contemplated to be reviewed at the June meeting is the possibility of a more adequate compensation to cover the cases with major injuries involving long term care and rehabilitation.

Respectfully submitted,
COMMITTEE ON REHABILITATION
George Smith, M.D., Chairman
J. M. Butler, M.D.
Conrad Blunck, M.D.
E. S. Palmerton, M.D.
Lloyd Mattice, M.D.

The Reference Committee recommends the acceptance of this report, pending the meeting to be held on Monday, June 1.

REPORT OF THE COMMITTEE ON CARE OF THE INDIGENT

No report.

Respectfully submitted,
COMMITTEE ON CARE OF THE INDIGENT
H. P. Adams, M.D., Chairman
G. E. Tracy, M.D.
R. E. Greenfield, M.D.
W. O. Hanson, M.D.
Barbara Spears, M.D.
G. J. Mangulis, M.D.
T. B. McManus, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CIVIL DEFENSE

The year 1963 was much like the previous year, with few new developments, and certainly no reactivated interest shown in civil defense.

The Medical Self-Help Program has progressed slowly with many South Dakotans taking part in the course, which can be typified in "what to do when there is no doctor."

Along with several other interested groups, an unorganized attempt is being made to urge the people of our state to become current in the protection offered by immunizations. General enthusiasm, in the population as a whole, governmental agencies, better programs and the medical profession, has lessened to an alarming degree, since the "Cuban Affair." This has made a great impact in the success of committee projects. It is hoped that next year more plans that will be long-range will be formulated.

Respectfully submitted,
COMMITTEE ON CIVIL DEFENSE
Courtney Anderson, M.D., Chairman
Harry Brauer, M.D.
R. F. Thompson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE FOR IMPROVEMENT OF PATIENT CARE

Since our last report this committee has met twice with the necessary representatives of other allied medical and nursing organizations. The topic for survey at the September 25, 1963 meeting was "Medical Audits in Small Hospitals." The panel members spoke of their hospital set-ups and stressed that with an established staff, tissue committee functioning, and a good library committee the audit was no problem. The radiologist, pathologist and record librarian all play an important part. The special problems of the smaller hospital were brought out. It was suggested that a larger

hospital or the State Medical Association could send out a team to assist the smaller hospital in its audit.

The second meeting was held again in Huron on March 18, 1964. A panel of nurses, doctors and hospital administrators presented the program on "Outpatient and Emergency Care in Our Hospitals." Statistics were shown to point up the climbing rate of emergency services now needed. Factors to consider in the set-up were: physical layout needed, organization, equipment necessary, public relations, medical records and the value as a teaching area. The problems of staffing the room, deciding what is an "emergency," and MD coverage were brought out.

The next meeting will be September 30, 1964 in Huron and the topic will be the "Preparation and Utilization of Nursing Personnel."

Respectfully submitted,
COMMITTEE FOR IMPROVEMENT OF PATIENT CARE
D. J. Buchanan, M.D., Chairman
D. W. Weatherill, M.D.
M. E. Sanders, M.D.
J. A. Muggly, M.D.
C. L. Vogele, M.D.
Howard Wold, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON SCHOOL HEALTH

No formal meetings were held but correspondence has been made referable to a review of college entrance examination forms used within our State. The forms for all seventeen schools in South Dakota have been reviewed by Dr. Tracy and a great variation exists. Some are much too brief and some are so lengthy as to be ludicrous. There is also a great variation in immunization requirements.

Your Committee would be willing to draw up a more suitable form as well as suggestions for immunization requirements which could be presented for consideration by the South Dakota State Medical Association to the proper school authorities.

The Committee, however, does not wish to go ahead unless suitable authorization is given since considerable work would be involved. To this end, may we suggest the following resolution:

It is the wish of the South Dakota State Medical Association that a single uniform college entrance examination and immunization form be adopted, rather than utilizing the multitude of the various forms that now exist for our State schools.

To this end, the Association requests the School Health Committee to develop such a form for consideration by the appropriate membership of the State Medical Association. This form, when and if approved by the Association, will then be suggested to the proper school authorities for uniform adoption.

It is suggested that this will prove advantageous to the schools involved as well as to the members of the medical profession.

Respectfully submitted,
COMMITTEE ON SCHOOL HEALTH
Warren Anderson, M.D., Chairman
G. E. Tracy, M.D.
T. E. Eyres, M.D.

The Reference Committee recommends the acceptance of this report. The Reference Committee also recommends adoption of Resolution No. 3 submitted by the School Health Committee, with the suggestion that it be extended to include all resident colleges in the State of South Dakota in addition to State schools. The Reference Committee suggests that the committee also study the problem of ahtletic examinations and set up standardization procedures for approval of the State Association.

REPORT OF THE COMMITTEE ON BUDGET AND AUDIT

The committee met in Sioux Falls January 19, 1964 to consider the proposed budget for 1964-1965. The report of the committee was presented to the Council and it was adopted.

This proposed budget was printed in the March 1964 issue of the **South Dakota Journal of Medicine and Pharmacy** and will be included in the **Delegate's Handbook** to be presented to the House of Delegates at the annual meeting for approval.

The audit will be prepared by a Certified Public Accountant and will be presented to the House of Delegates at the same time.

Respectfully submitted,
COMMITTEE ON BUDGET AND AUDIT
A. P. Reding, M.D., Chairman
A. K. Myrabo, M.D.
R. F. Hubner, M.D.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION

INCOME

State Dues	$43,000.00
Annual Meeting	9,500.00
Interest	400.00
Miscellaneous	500.00
Salary reimbursement	400.00
Car reimbursement	690.00
Refunds	500.00
Kathryn Kuehn Fund	500.00
	$55,490.00

EXPENSES

Salary, Executive Secretary	$ 4,800.00
Salary, Other	10,560.00
Social Security	400.00
Legal and Audit	650.00
Telephone & Telegraph	1,500.00
Office Supplies & Equipment	2,400.00
Dues and Subscriptions	1,500.00
Officers Travel	2,200.00
Annual Meeting	8,000.00
Public Relations	4,000.00
Rent	2,400.00
Miscellaneous	400.00
Unemployment taxes	
Postage	1,500.00
Legislative Expense	2,400.00
Benevolent Fund	400.00
Medical School Endowment	200.00
Ladies Auxiliary	1,000.00
Kathryn Kuehn Fund	500.00
Car Expenses	1,800.00
Staff Travel	4,000.00
Clinical Pathology	1,000.00
Reserve	3,880.00
	$55,490.00

JOURNAL—INCOME

Advertising	$20,000.00
Subscriptions	1,200.00
Miscellaneous	750.00
Refunds	100.00
	$22,050.00

JOURNAL—EXPENSES

Salary, Editors	$ 1,440.00
Legal and Audit	50.00
Salary, Staff	120.00
Social Security	6.00
Rent	900.00
Salary, Business Manager	
Telephone and Telegraph	175.00
Office Supplies	17,000.00
Travel Expense	350.00
Balance to Surplus	809.00
Due Midwest-Beach from 1963-1964	1,000.00
Postage	200.00
	$22,050.00

GROUP LIFE INSURANCE INCOME

Premiums	$30,000.00
EXPENSES	
Payments to Insurance Company	$29,100.00
Postage	50.00
Legal & Audit	50.00
Supplies	50.00
Balance to Surplus	750.00
	$30,000.00

BUILDING FUND—INCOME

Blue Shield Rent	$ 4,800.00
Association Rent	2,400.00
Journal Rent	900.00
Board of Examiners Rent	300.00
Nurses Association Rent	900.00
OAA Rent	2,250.00
	$11,550.00
EXPENSES	
Janitor and Repair	$ 1,400.00
Utilities	1,600.00
Interest	2,600.00
Repayment of Loans	2,450.00
Taxes & Insurance	2,000.00
Legal and Audit	1,500.00
	$11,550.00

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON AGING

Your committee on aging met two or three times during the summer 1963, organizing and bringing about a state-wide conference on aging on 5 October, 1963, in Huron, South Dakota. The planning and organization of this meeting was detailed in large part by Mr. John Foster, and the program itself was handled by Mr. Foster and the committee at large. The meeting was attended by six or eight people from the South Dakota State Health offices, by one to several people representing the different organizations on the program, and your South Dakota State Medical Association was represented by only two of its members. The meeting was summed up and concluded by Mr. Howard Wells, Executive Director of the Joint Council for Health Care to the Aged, Chicago, Illinois.

Since that meeting in Huron the committee on aging has had no additional meetings, and no further business.

Respectfully submitted,
COMMITTEE ON AGING
W. L. Jones, M.D., Chairman
H. R. Wold, M.D.
C. F. Johnson, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON CORONER'S LAW

Because of the newness of the job which has been assigned me this has been a year of getting acquainted with the issues.

We are contacting pathologists on the particular problems which face them. We anticipate the presentation of a recommendation at the next legislative session.

Respectfully submitted,
COMMITTEE ON CORONER'S LAW
D. M. Frost, M.D., Chairman
E. H. Peters, M.D.
R. Honke, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON TRAFFIC SAFETY

The committee has had no formal meetings. The chairman has had on two different occasions an opportunity to discuss the possibility of proposed legislation with Mr. Donald Rounds of the State Traffic Safety Department. With these meetings suggestions were made and closer liaison between government and the State Medical Association was advised. I am sure that the request a year ago by the committee for an adequate seat belt licensing law was helpful in the passage of this law. It would seem to me that a traffic safety program could be best implemented by having representatives in each major city in South Dakota that are on the traffic safety committee of that city and that through this type organization in conjunction with the chairman of the State Traffic Safety Committee being on the Governor's committee would help implement any further program that we have. There are several that could be worked out and should be worked out, but I think would only be followed through under an enlarged program of this sort.

Respectfully submitted,
COMMITTEE ON TRAFFIC SAFETY
H. L. Saylor, M.D., Chairman
J. J. Stransky, M.D.
G. M. Jameson, M.D.

The Reference Committee recommends the acceptance of this report. The Committee wishes to indicate that the matter of driver disability forms has been referred to this Committee for study and recommendation at a future meeting.

REPORT OF THE LIAISON COMMITTEE WITH THE S. D. PHARMACEUTICAL ASSOCIATION

During the past year the Medical liaison committee has had no meetings. However, the Chairman did have the privilege of participating in the first Congress of Medicine and Pharmacy held in Chicago's Continental Hotel on March 12th, and 13th. The following report is submitted concerning this meeting.

Ethical problems that exist between the two professions were the keynote of this meeting. This concerned chiefly the physician's role in dispensing, and involvement with clinic pharmacies. It was also concerned with counter prescribing by the pharmacists. Though the discussion became heated certain salient facts, and conclusions were reached.

1. We must air our differences on a professional liaison level, and attempt to ethically resolve our problems on a voluntary, local, and state level.
   a. The official AMA position by the House of Delegates passed last June declared: "It cannot be considered unethical for a physician to own or operate a pharmacy, provided there is no exploitation of the patient."
   b. Twenty five states now have Medical-Pharmaceutical liaison committees.
   c. A code of understanding in Iowa was adopted by the Iowa Medical Assoc. House of Delegates in 1959. This opposed dispensing by physicians, and counter prescribing by Pharmacists. In Texas a Code of Interprofessional Relations for Physicians and Pharmacists has been adopted. Copies of these codes are enclosed.
   d. In Connecticut a voluntary Joint Pharmacy and Medicine committee ruled 14 years ago that clinic pharmacies were not in the public interest. There are no clinic pharmacies in this state.
   e. In California legislation was passed last September which forbids new clinic pharmacies.

f. Any Pharmacist that is involved in a clinic pharmacy is not eligible for the American College of Apothecaries.

2. Many other problems of a less emotional nature were discussed. These included the USAN Council (agency responsible for drug nomenclature); 2. The role of the pharmacist as a public health consultant; 3. Adverse Drug Reaction Reporting Program; 4. Poison control centers.
3. The Joint Commission has decided on an Annual Congress, and recommends that both professions call similar meetings of their own on a local and state level.

Your chairman came away from the meeting with several strong impressions.

1. We had better resolve our interprofessional differences in order to present a strong, and united front in combatting strong federal intervention in medicine.
2. No one mentioned it, but it would seem to me that the basis of both Pharmaceutical and Medical ethics would be strengthened by stronger and more heavily emphasized didactic courses concerning Medical and Pharmaceutical ethics.
3. Dr. Jenkins, Dean of the Purdue University College of Pharmacy stated: "Anything we do that cannot stand complete disclosure to the public should be considered unethical." In this day where the image of medicine has been dimmed in the public's eye this would seem the basis on which our professions should operate.

Respectfully submitted,
LIAISON COMMITTEE WITH THE S. D. PHARMACEUTICAL ASSOCIATION
V. V. Volin, M.D., Chairman
R. J. Foley, M.D.
Dagfinn Lie, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICINE AND RELIGION

On the 9th of March we were to have had a meeting of this Committee at Vermillion, South Dakota with a representative from the American Medical Association, Mr. Fred W. Eberlein, to lay out plans for an organization by districts throughout the State, which will be done in the near future. Dr. Stiehl and Dr. Tieszen were the other members of this Committee. Dr. Stiehl was unable to be there. Dr. Tieszen made the trip from Pierre and he and Mr. Eberlein were able to lay out the plan of procedure. This is a facet of our responsibility to the care of the whole man, which is very challenging. Paul McCleave, who is the director of the Department of Religion and Medicine, states that in his work going across the country, that this is a very popular program, and it has been received very enthusiastically.

At the annual meeting of the American Medical Association at San Francisco there will be a work shop just prior to the annual convention, and they are anticipating over 3,200 people to attend. This, they expect to be one of the highlights of the convention. It should enhance the so-called image of the Medical profession, although this is not the intent of the program.

Respectfully submitted,
COMMITTEE ON MEDICINE AND RELIGION
Alonzo P. Peeke, M.D., Chairman
R. S. Stiehl, M.D.
A. J. Tieszen, M.D.

The Reference Committee recommends the acceptance of this report.

REPORT OF THE FEE ADVISORY COMMITTEE

The Committee met twice during the past year, in December and April. Due to the importance and wide range of implications involved in revising the Relative Value Study, the committee feels additional time, study and research must be made before recommendations can be presented to the House of Delegates. Therefore there will be no final report or recommendations made at this time. The committee plans to meet again in July and during the ensuing year, if necessary. It is the hope of the committee that a complete report with recommendations concerning the Relative Value Study for South Dakota will be submitted to the 1965 meeting of the House of Delegates.

Respectfully submitted,
FEE ADVISORY COMMITTEE

The Reference Committee recommends the acceptance of this report.

FIFTY YEAR CLUB MEMBERS

C. V. Auld, M.D., Plankinton
J. C. Clark, M.D., Sioux Falls (deceased)
F. L. Class, M.D., Huron (deceased)
M. E. Cogswell, M.D., Wolsey (deceased)
J. Cook, M.D., Bonesteel (deceased)
S. A. Donahoe, M.D., Sioux Falls
W. E. Donahoe, M.D., Sioux Falls
V. W. Embree, M.D., Pierre
W. D. Farrell, M.D., Aberdeen (deceased)
R. B. Fleeger, M.D., Lead
R. R. Fisk, M.D., Flandreau (deceased)
F. W. Freyberg, M.D., Mitchell
E. E. Gage, M.D., Sioux Falls (deceased)
E. H. Grove, M.D., Arlington (deceased)
Lyle Hare, M.D., Spearfish
J. A. Hohf, M.D., Yankton (deceased)
F. S. Howe, M.D., Deadwood (deceased)
A. H. Hoyne, M.D., Salem (deceased)
A. S. Jackson, M.D., Rapid City
R. J. Jackson, M.D., Hot Springs (deceased)
J. A. Jacotel, M.D., Milbank (deceased)
G. T. Jordan, M.D., Vermillion (deceased)
F. F. Keene, M.D., Wessington Springs (deceased)
B. C. Murdy, M.D., Aberdeen
N. T. Owen, M.D., Rapid City (deceased)
L. L. Parke, M.D., Canton
R. J. Quinn, M.D., Sioux Falls
T. B. Ranney, M.D., Aberdeen (deceased)
T. F. Riggs, M.D., Pierre (deceased)
H. L. Saylor, M.D., Huron (deceased)
F. W. Valkenaar, M.D., Chancellor
G. E. Van Demark, M.D., Sioux Falls (deceased)
H. P. Volin, M.D., Lennox
C. H. Weishaar, M.D., Huron (deceased)
J. R. Westaby, M.D., Madison
G. E. Zimmerman, M.D., Missoula, Montana

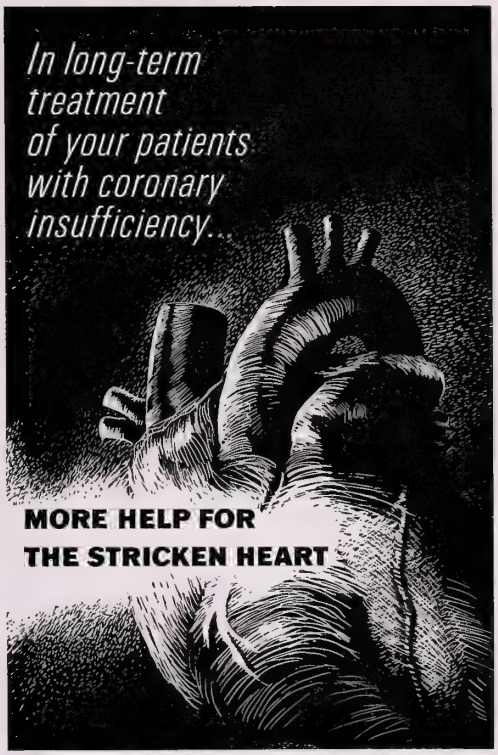
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1953—Guy Van Demark, M.D., Sioux Falls (deceased)
1954—J. C. Ohlmacher, M.D., Vermillion (deceased)
1955—R. G. Mayer, M.D., Aberdeen (deceased)
1956—J. C. Ohlmacher, M.D., Vermillion (deceased)
1957—W. E. Donahoe, M.D., Sioux Falls
1958—Drs. J. C. Hagin, M. W. Pangburn (deceased), and James DeGeest, Miller
1958—J. F. Brenckle, M.D., Superior, Wisc. (deceased)
1958—Mrs. Agnes Holdridge, Madison
1959—Walter L. Hard, Ph.D., Vermillion
1959—Rev. and Mrs. Robert O. Bates, Sturgis
1959—R. M. Kilgard, M.D., Watertown (deceased)
1960—L. J. Pankow, M.D., Sioux Falls
1961—Gregg M. Evans, Ph.D., Custer
1962—Edwin Shaw, Ph.D., Vermillion
1963—Arthur A. Lampert, M.D., Rapid City
1964—John C. Foster, Phoenix, Ariz.

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Side effects: Pentaerythritol tetranitrate may infrequently cause nausea and mild headache, usually transient. Slight drowsiness may occur with meprobamate and, rarely, allergic reactions. **Precautions:** Meprobamate may increase effects of excessive alcohol. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction. **Contraindications:** Like all nitrate-containing drugs, 'Miltrate' should be given with caution in glaucoma. *Complete product information available in the product package, and to physicians upon request.* **Dosage:** 1 to 2 tablets, *before meals* and at bedtime. Individualization required. **Supplied:** Bottles of 50 tablets.

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Czajkowskyj, Ruth ____ Veblen
Czajkowskyj, T. ____ Veblen
D'Arata, E. J. ____ New Underwood
Damm, W. P. ____ Redfield
Davidson, H. E. ____ Sioux Falls
Davidson, M. ____ Brookings
Davis, J. H. ____ Belle Fourche
Dean, Roscoe ____ Wess. Springs
de Almeida, M. J. ____ Viborg
de Boer, A. ____ Lennox
deDianous, N., Jr. ____ Aberdeen
De Geest, J. H. ____ Miller
Delaney, R. J. ____ Mitchell
Delaney, W. A., Jr. ____ Mitchell
de Marco, Lynn ____ Sioux Falls
Devick, J. S. ____ Colton
Donahoe, J. W. ____ Sioux Falls
Donahoe, R. R. ____ Sioux Falls
*Donahoe, S. A. ____ Sioux Falls
*Donahoe, W. E. ____ Sioux Falls
Drissen, E. M. ____ Britton
Driver, D. R. ____ Sioux Falls
Driver, I. E. ____ Aberdeen
Duimstra, F. ____ Sioux Falls
Dulaney, C. H. ____ Ft. Meade
Duncan, William ____ Webster
Dzintars, P. F. ____ Faith
Eckrich, J. A. ____ Aberdeen
Eirinberg, I. ____ Sioux Falls
Elston, J. T. ____ Rapid City
Ensburg, D. L. ____ Sioux Falls
Epp, D. L. ____ Freeman
Erickson, E. G. ____ Sioux Falls
Eyres, T. E. ____ Vermillion
Faber, Donald ____ Sioux Falls
Fahrenwald, M. ____ Redfield
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Farrell, H. W. ____ Sioux Falls
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Foley, R. J. ____ Tyndall
Fox, S. W. ____ Pierre
Freimark, L. ____ Rapid City
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Frost, H. L. ____ Rapid City
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Gerber, B. C. ____ Aberdeen
Gere, R. G. ____ Mitchell
Giebink, R. R. ____ Sioux Falls
Gilbert, F. J. ____ Belle Fourche
Gillis, F. D. ____ Mitchell
Glood, D. ____ Viborg
Graff, L. W. ____ Britton
Grau, H. J. ____ Rapid City
*Green, R. D. ____ Sioux Falls
Greenfield, D. L. ____ Sioux Falls
Greenfield, R. E. ____ Sioux Falls
Greenough, E. E. ____ Sioux Falls
Gregg, J. B. ____ Sioux Falls
Gregory, D. A. ____ Milbank
Gross, H. Phil ____ Sioux Falls
Grove, M. S. ____ Sioux Falls
Grover, W. W. ____ Bondeul, Wisc.
Gryte, C. F. ____ Huron
Gunc, Bedrettin ____ Selby
Gwinn, C. B. ____ Rapid City
Gysin, Walter ____ Watertown
Haas, F. W. ____ Yankton
Hagan, A. S. ____ Faulkton
Hage, W. J. ____ Sioux Falls
Hagin, J. C. ____ Miller
Hamm, J. N. ____ Sturgis
Hanisch, E. C., Jr. ____ Huron
Hansen, H. F. ____ Sioux Falls
Hanson, W. O. ____ De Smet
Hare, H. J. ____ Rapid City
Hare, Lyle ____ Spearfish
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Hohm, Paul ____ Huron
Hohm, Theo. ____ Huron
Hohm, Wilbur ____ Huron
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Horthy, K. ____ Kennebec
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Hoskins, J. H. ____ Sioux Falls
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Johnson, E. A. ____ Milbank
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Jones, W. E. ____ Sturgis
Jones, W. L. ____ Sioux Falls
Judge, W. T. ____ Milbank
Kalda, E. F. ____ Platte
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Kaufman, I. I. ____ Freeman
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Keegan, Agnes ____ Aberdeen
Kegaries, D. L. ____ Rapid City
Keller, L. W. ____ Webster
*Keller, S. A. ____ California
Kelly, W. T. (M.S.)
Kemper, C. E. ____ Viborg
Kershner, C. M. ____ Brookings
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King, B. F. ..... Aberdeen
King, E. A. ..... Rapid City
King, L., Jr. ..... Sioux Falls
Kittelson, H. O. ..... Sioux Falls
Klar, W. ..... Flandreau
Kleinsasser, G. ..... Scotland
Knabe, G. W. ..... Vermillion
Knowles, R. C. ..... Sioux Falls
Kohlmeyer, F. C. ..... Sioux Falls
Koren, P. H. ..... Rapid City
Kosse, Karl ..... Aberdeen
Kovarik, R. A. ..... Rapid City
Kovarik, W. J. ..... Rapid City
Kramer, R. K. ..... Yankton
Kryger, P. ..... Groton
Kucera, W. ..... Lead
Kwan, F. P. ..... Rapid City
Lakstigala, Peter ..... White River
Lampert, A. A. ..... Rapid City
Lardinois, C. C. ..... Huron
Larson, C. S. ..... Sioux Falls
Leander, R. B. ..... Sioux Falls
Leeds, J. F. ..... Hot Springs
Leigh, F. D. ..... Huron
Lenz, B. T. ..... Huron
Leon, Paul ..... Aberdeen
Leraan, L. G. ..... Sioux Falls
Lewis, H. R. ..... Mitchell
Lewis, J. R. (M.S.)
Lie, Dagfinn ..... Webster
Lietzke, E. T. ..... Beresford
Lindbloom, B. O. ..... Pierre
Lindholm, D. D. (M.S.)
Lloyd, J. H. ..... Mitchell
Lloyd, J. H., Jr. ..... Mitchell
Lovering, J. ..... Webster
Lowe, Harold ..... Mobridge
Lushbough, B. C. ..... Brookings
Lydiatt, J. ..... Hot Springs
Lynn, R. J. ..... Edgemont
Lyso, M. ..... Yankton
Mabee, D. R. ..... Mitchell
Mabee, J. O. ..... Mitchell
Mabee, O. J. ..... Mitchell
Magtibay, M. ..... Bryant
Mangulis, G. ..... Philip
Manning, D. H. ..... Sioux Falls
Maresh, E. R. ..... Sioux Falls
Marousek, M. ..... Belle Fourche
Marr, L. ..... Estelline
Marr, V. ..... Estelline
Mattice, Lloyd ..... Sioux Falls
Mattox, J. E. ..... Deadwood
Maxwell, R. T. ..... Clear Lake
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Mendoza, Carlos ..... Huron
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Murdy, C. B. ..... Aberdeen
Murphy, J. C. ..... Murdo
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McGreevy, J. V. ..... Sioux Falls
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Nordmo, S. H. ..... Vermillion
Norgello, V. ..... Redfield
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Petres, A. ..... Salem
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Plowman, E. T. ..... Brookings
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*Quinn, R. J. ..... Sioux Falls
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Read, Leland ..... Edgemont
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Semones, A., Jr. ..... Lead
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Sherrill, S. F. ..... Belle Fourche
Shreves, H. ..... Sioux Falls
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Smith, G. W. ..... Sioux Falls
Spain, M. L. ..... Rapid City
Spears, B. ..... Pierre
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Spiry, A. W. ..... Mobridge
Staats, R. S. (M.S.) ..... New York
Stahmann, F. S. ..... Sioux Falls
Stanage, W. F. ..... Yankton
Standard, R. A. ..... Aberdeen
Steele, G. H. ..... Aberdeen
Steele, J. P. ..... Yankton
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Stoltz, C. R. ..... Watertown
Stone, D. Q. (M.S.)
Stransky, J. J. ..... Watertown
Strauss, B. ..... Washington
Studenberg, D. ..... Gregory
Studenberg, J. E. ..... Winner
Sullivan, W. S. (M.S.)
Sundet, N. J. ..... Kadoka
Swanson, C. L. ..... Pierre
Sweeny, W. T. ..... Aberdeen
Sweet, E. P. ..... Burke
Swisher, L. P. ..... Kadoka
Tank, M. C. ..... Brookings
Taylor, Wm. R. ..... Aberdeen
Tesar, C. E. ..... Rapid City
Theissen, H. H. ..... Rapid City
Thompson, R. F. ..... Yankton
Tidd, J. T. ..... Yankton
Tieszen, A. J. ..... Pierre
Tobin, F. J. ..... Mitchell
Tobin, L. W. ..... Mitchell
Torkildson, G. ..... McLaughlin
Totten, F. C. ..... Lemmon
Tracy, G. E. ..... Watertown
Tschetter, P. S. ..... Huron
Turner, C. R. ..... Brookings
Urbanyi, E. W. ..... Gettysburg
Van Demark, R. E. ..... Sioux Falls
Van Heuvelen, G. J. ..... Pierre
Van Lier, P. C. ..... Sioux Falls
Villa, J. P. ..... Freeman
Vogele, A. C. ..... Aberdeen
Vogele, C. L. ..... Aberdeen
Vogelgesang, L. C. ..... Gregory
*Volin, H. P. ..... Lennox
Volin, V. V. ..... Sioux Falls
Vonburg, V. R. ..... Mitchell
Vose, J. L. ..... Mitchell
Votaw, F. ..... Sioux Falls
Wall, D. W. (M.S.)
Watson, E. S. ..... Brookings
Weatherill, D. W. ..... Mitchell
Weaver, R. J. ..... Sioux Falls
Weber, R. A. ..... Mitchell
Wegner, K. H. ..... Sioux Falls
Werthmann, H. ..... Pierre
Wessman, N. E. ..... Sioux Falls
Westaby, J. R. ..... Madison
Westaby, R. S., Jr. ..... Rapid City
Westland, G. I. ..... Onida
White, F. T. (M.S.)
Whitney, N. R. ..... Rapid City
Whitson, G. E. ..... Madison
Willcockson, T. H. ..... Yankton
Willen, Abner ..... Clark
Williams, F. R. ..... Rapid City
Williams, M. F. ..... Sioux Falls
Wingert, Marvin ..... Garretson
Winters, M. D. (M.S.)
Wold, H. R. ..... Madison
Wood, G. F. ..... Rapid City
Wrage, T. R., Jr. ..... Watertown
Wright, J. C. (M.S.)
Yackley, J. V. ..... Rapid City
Zakahi, R. J. ..... Pierre
Zandersons, V. ..... Parker
Zanka, J. A. ..... Rapid City
*Zimmerman, Goldie E.
Missoula, Montana
Zvejnieks, K. ..... Leola

M.S.—Indicates Military Service
*—Indicates Honorary Membership

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Dr. T. H. Willcockson, Yankton ophthalmologist, was elected to the Yankton School Board.

* * *

Dr. and **Mrs. Bedrettin Gunc** of Selby spent their vacation in Europe. They visited Germany and Turkey.

* * *

The citizens of Lennox, South Dakota, gathered recently to honor **H. P. Volin, M.D.** for his many years of service to their community.

Dr. Wilbert Hohm of Huron presented a paper entitled "Anorectal Squamous-cell Carcinoma: A Conservative or Radical Treatment?" to the proctology section of the American Medical Association.



Robert H. Hayes, M.D. of Winner, South Dakota, Past President of the South Dakota State Medical Association, is shown receiving the Minute Man Award from Brigadier General "Duke" Corning.



Receiving awards at the 83rd Annual Meeting of the South Dakota State Medical Association were **R. H. Hayes, M.D.,** of Winner, South Dakota, the Minute Man Award; **John C. Hagin, M.D.** of Miller, South Dakota, the Community Service Award; **John C. Foster,** Phoenix, Arizona, the Distinguished Service Award; and **Magni Davidson, M.D.** of Brookings, South Dakota, the Past President's Award.



The new officers of the South Dakota State Medical Association (left to right) are: **James P. Steele, M.D.** of Yankton, President; **Paul Hohm, M.D.** of Huron, President-Elect; **P. P. Brogdon, M.D.** of Mitchell, Vice President; and **A. P. Reding, M.D.** of Marion, Secretary-Treasurer and AMA Delegate.

NEW PEACE CORPS POLICY FOR M.D.'S

Peace Corps Director Sargent Shriver has announced that physicians will be allowed to take their families with them to overseas posts.

Under this new policy, wives of physicians will not be required to serve as Volunteers but they must complete a Peace Corps application for information purposes. Doctors with children can be accepted and adequate family living allowances will be provided.

All types of physicians are needed. Specialists will be assigned to projects where they can work in their specific fields and gain professional experience while helping the Peace Corps do its job.

Detailed information about specific programs and Volunteer Questionnaires may be obtained from Office of Public Affairs, Peace Corps, Washington, D. C. 20525.

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W. B. SAUNDERS Company features the following new books and new editions in their full page advertisement appearing elsewhere in this issue:

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New! — An intriguing volume relating the inspiring story of tissue transplantation, from its beginnings to modern-day successes.

NELSON — TEXTBOOK OF PEDIATRICS

New (8th) Edition! — Up-to-date help on how to treat the ill child and how to keep the well child healthy.

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GARY OMODT, PH.D.
EDITOR
College of Pharmacy
South Dakota State University
Brookings, South Dakota

TRANSACTIONS OF THE SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION ANNUAL CONVENTION

MAY 17, 18, 19, 1964

MITCHELL, SOUTH DAKOTA

PRESIDENT'S ADDRESS

Wayne Shanholtz, President
Mitchell, South Dakota

Fellow pharmacists, guests, ladies and gentlemen. All my life I have heard people get up on a platform and say: "A funny thing happened to me on the way over here today." Believe me, nothing has ever happened to me on the way over anywhere — until today. On my way over, I happened to see a couple of bricklayers working. I stopped and asked one of them what he was working for. He replied that he was working for $6.50 an hour. I asked the other one why he was working. He told me that he was helping build a beautiful church with spires reaching up to the sky. Quite a different viewpoint. However, he was fired — they were building a garage.

He was about as confused as I was when I started on this job some five years ago. There are points that I am not clear on yet.

The ideas that I will express here are my own. Please don't blame the Executive Committee. If you want to get mad, get mad at me. My shoulders are broad. If you are expecting an address that will solve all your problems and leave you with untold enthusiasm, leave now, so you won't be disappointed.

I would like to reminisce with you for a while and go over some of the happenings of the past year. First let me say that the Executive Committee has been wonderful. It is the most cooperative group it has been my pleasure to work with. We finally got the fees for the patent medicine and poisons raised to double. This without any stir or ado. It just goes to prove that you can still catch more flies with beer than you can with vinegar. Right now, no one is real mad at us. If we can keep this attitude, who can tell what we may be able to do in the future.

How do you like the newsletters? I think they are an excellent means of letting you know what your Executive Committee is doing. Also, it will get legislative news and other pertinent information to you while it is still hot. By the way, do you know your legislators personally? If so, how well? If you are not well acquainted with the legislators from your area, let me urge you to get to know them. Believe me, when you want support for some type of legislation, it is most important who you know.

I hope your next president will be more of an author than I. The president's page in the **South Dakota Journal of Medicine and Pharmacy** has been conspicuous by its absence. Because I did not have all the answers, I did not write about them. I could see no object in just filling up a page with words. By the way, there are only 48 subscriptions to the **Journal.** It seems to me if we are going to have an editor, it wouldn't be a bad idea for most of us to take it and read it. As a help for your next president, I would suggest that you write him about anything you feel is pertinent to conditions in your area. This will be of great help in his decisions.

Perhaps with a little more cooperation from a closer knit organization, we can come up with more solutions to our mutual problems. As a former pharmacist of mine used to say, "two heads are thicker than one." It is regrettable that now when we need unity in our ranks as never before, our two national organizations are pretty much at odds.

As you well know, the pharmacist is the only businessman who is required by law to have a college education. This is good — because an individual not intelligent enough to get a degree could never have endured through the years, and still keep his independent status. It seems everyone — the "supers," the discount houses, the mail-order houses, the door-to-door peddler, and a host of others — are all trying to get into the act. Some of them are doing pretty well. However, we can pretty well combat this type of competition. Now there is a new type. A group across the country that is of the opinion that it is not professional to have anything to do with a front-end store business. If they are successful in separating the two — it will be from pressure from within and not from the public. As several surveys that have been run in late years prove, insofar as the general public is concerned, there is no incompatibility in a traditional drug store and a prescription department. The prescription department of a well run drug store is just as professional, and usually a lot more friendly than the socalled ethical pharmacy.

It has always seemed to me that the conventional druggist has inspired more confidence than any other person in town. He is asked advice on everything from income tax to religion — plus, "Why is Janie fat when she doesn't eat enough to keep a bird alive?" The druggist works long hours, he must be a professional pharmacist, tax collector, bookkeeper, magazine censor, a father confessor, and a host of other things. Surely there must be

some reason for this besides money. I know of few wealthy druggists — and most of those have made their money on investments outside the drug store. The truth is, and I doubt if many of them realize it, that they are dedicated men. Dedicated to public health and to helping people. It seems to me that this has always been true. As I go back into one of the back closets of my memory, it seems that the town druggist was always one of the most important and respected men in town. I said "closet of memory." I like closets. If there were no closets, there would be no hooks, if there were no hooks, there would be no fish, and that would be all right with me.

We all have the age-old problems of training help. I have trained enough apprentices that I think I should be accredited. Perhaps a degree in little known facts about which no one gives a darn. I give each of my clerks a department to be responsible for. This creates more of an interest in his work. It also gives me all chiefs and no Indians. I have to sweep the sidewalk myself.

As for credit — one of my customers said to me just the other day, "How much is this prescription?" I said, "John, the normal price for this Rx is $10, however, I am going to let you have it for $5. I can't afford to lose $10."

I have no quarrel with the bona fide independent clinic pharmacy. I have good friends in several of them. I do, however, object strongly to physician-owned pharmacies or those run on a percentage rent basis. Druggists can, as a rule, compete with other types of endeavor as to service, price, and personality. However, when a doctor hands a patient a prescription and says, "Just pick this up at the pharmacy on your way out" (or in many cases just picks up an intercom and says to the pharmacist, "Give Mrs. Jones the flu pack") — that is free choice of pharmacies, I don't think. The excuse for this is, of course, that it is for the benefit of the patient. This benefit also extends to the time when a refill is needed. Then the patient can hurry to town before the clinic closes, and drive an extra few miles away from where he does his other shopping and have his prescription filled. Most of these pharmacies also carry at least one wall of over-the-counter items. This is again for the benefit of the patient only. I have noticed that none of the items are sold for cost. It reminds me of a crack I heard about a year ago: Ethics are fine, just as long as they don't interfere with business. These remarks are not for every clinic pharmacy. If they do not apply to you, don't buy them.

Fellow pharmacists, your profession is an honored one. Defend it. One of the best ways to do this is to educate the public. This can be done in your advertising, in talking to service clubs, 4-H clubs, and many others. Never miss a chance to explain about pharmacy. When a customer complains about a prescription being too high, explain why it is today's biggest bargain.

At this time, I want to read an excerpt from the **NARD Journal.** Perhaps many of you have already read it. If so, it will be worth hearing again.

> "It is a truism that progress depends to a great extent on plans derived from meditated thoughts of the look in a forward direction. None of us discerns much when we stare only at 'Now.'
>
> "We are told quite often that pharmacy is in a downswing, and that to reverse the trend, it is urgent to resort to a form of quackery.
>
> "Pharmacy does have problems to contend with but there have been problems in pharmacy for 4,000 years. Once problems cease to disturb a profession, it is prima facie evidence that the profession is dead. None of the frontline pessimists with ulterior motives will say that pharmacy is near death, and yet they talk much about a 'cure-all' to save pharmacy from an ailment they identify as 'commercialism,' an infection supposed to come from upfront products sold in traditional drug stores, and which, we are told, must be regarded as a malady of such serious effects that 25,000 or 30,000 drug stores must be exterminated to make it possible to restore prestige to pharmacy in the retail field. Just a look in a forward direction will reveal the fallacy of the offered remedy based on a delusion concocted by the frontline pessimists with ulterior motives.
>
> "It is plain to all of us that today, change is on a rampage as never before in human history. One must be alert to reversals of trends as well as the onrush of progress. Nothing seems to be immune from the effects of change. Often the effects include confusion and then we flounder as we strive to make the necessary adjustments. It is easy to make expensive mistakes because the guide posts we have followed for many years have ceased to be reliable. Retailers in particular must take time to study the psychology of the consumers in the market place. Competition, as it operates, must also be analyzed at frequent intervals to provide essential guidance. The business patterns of yesterday may be obsolete today. It is an error to assume otherwise. Such is the stampede of change we must contend with and it is vital that we pause now and then to look in a forward direction in order to see the realities as well as the delusions that generate deplorable confusion in the retail drug field."

In closing, I want to stress the importance of cooperation, not only among ourselves, but also with the independent drug wholesaler. He is fighting for survival just as you and I. Stop and think of the many new services and discount structures that he has sent your way this last year. If we are to remain independent druggists, we must also have the independent wholesaler.

Again I say that in my opinion to retain our independent business status, we must **educate** and **cooperate.**

Thank you.

REPORT OF THE SECRETARY SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION AND SOUTH DAKOTA BOARD OF PHARMACY

Harold Schuler, Secretary
Pierre, South Dakota

At the outset, I would like to say that I have greatly enjoyed the past four months while working as your secretary. It has been a thrilling experience; I'm learning a lot every day and I hope to continue to learn. One of the main reasons, I understand, that I have been retained here is to take a hard look at public relations and find a way in which we can better improve the image of pharmacy.

I would like to take just a few moments to briefly define the area that we have to work in, in order to improve our image. Some of this might seem rather elementary, but it is still the area in which we have to work to make this a better Association, to make a better world of pharmacy.

The first area in which we have to work is the local area. In fact, the main place that we can make a better image is in the drug store itself. To me, this is the laboratory you have in which to

work to improve the entire profession. How is your service? Are you following the law in the regulation and management of your store? Are you explaining to your customers the price? When you give a bill to a customer, do you give him a plain bill or do you put a little message on it? There is no need for me to go further. There are many, many ways that you gentlemen are responsible for in your stores for better public relations and for a better image. As we go through this year, I will define the responsibilities of the Association and the Board and others. But, we must start with the store and you gentlemen can properly analyze what you think **you** can do to make a better profession.

Now, still at the local level, the image of pharmacy goes much further than what you do in your store. It is you, yourself, who carries the message around the community. You must take an active part in public and private affairs in your communities. How many of you here are active in a charitable organization? I know you all contribute; it is pretty hard not to as a businessman. If you are, you leave a good image while contributing your time. At this time, I'm on the Board of Directors of the Mental Health Association in South Dakota. I have been involved with many other groups. That is one place where you can go to work. I know it is hard work — it is all hard work.

Another place is your civic responsibilities. How many of you here are on the school board, the city commission, or the county commission? I see we have several. Not only serving in governmental areas, but what about other civic responsibilities? For example, your chamber of commerce, and your clubs other than charitable groups. You have to penetrate all of these services in your community to broaden your image and include your attitude or respect in your community. Why is it important to take part, especially in governmental activities? Let me explain that you have an economic sanction in the field of pharmacy. You are guaranteed by law to do a certain amount of business in South Dakota. It is the type of business that others want to get a hold of. The only way we can continue this economic sanction is to take a part in the place where the decisions are made. It isn't that you have to be at the governor's level. All kinds of decisions are made in your county which affect your profession. If you can't be a county commissioner, you had better be sure you know every one of them because many of them are making decisions today as to the pricing of pharmaceuticals to welfare recipients. So, let me remind you that you **must** take a part in the places where decisions are made. It is **very** important that you do. At the local level, we have our store which we can work in and then we can follow through on the other side as to what we do as individuals in our communities — taking part in charitable, city, and governmental work.

Another area on the local scene in which we can improve our image is through advertising. I have looked at all the papers. It is amazing when I look at some of the big ads — and some of you gentlemen are good advertisers — and see left out the thoughts that the profession of pharmacy is an honorable one, that skills are at work. You advertise everything **except** what you, yourself, are providing. It only takes a couple of columns wide and a couple of inches deep to spread this little message. I notice that some of the national magazines that you get in your stores have these little quips — and we are going to get a few in the newsletter. That is the only place that you have to work: in those three areas.

Now, let us go to another level, the state-wide level. The first group we have that is largely responsible for making this a better profession is the Association itself. We have officers and a program. The program is not too broad. We **must** broaden it this year. Tomorrow afternoon in the Executive Committee meeting, I have a few ideas that I would like to present to the Association. We can work through the Association newsletter and news releases — we can get the message across that way. One important part of your Association is the Legislative and Commercial Section. The response to that Section frankly doesn't impress me too much. We sent out letters twice to all drug stores and all pharmacists in South Dakota and only 100 drug stores have joined us out of 241 at $10 each. We have 70 pharmacists who took time out to send $5 to be a member of this Legislative and Commercial Section out of 952, 500 of which are in South Dakota. It is the Legislative and Commercial Section that provides a source of revenue for us that we can use without accounting to Mr. Penne and the state government. This is our money and one of these fine days we might find ourselves in a very tough governmental situation where we would have to have a couple thousand dollars on hand in order to combat it. Some way, we have got to respond to this Legislative and Commercial Section. We're down to $723 and I think that is too low. At the last session of the legislature we had fairly good success. We got our two bills through and it worked out very well. Twenty-one pharmacists, when they responded to their membership in the Legislative and Commercial Section, said they would be willing to come to Pierre. Twenty-one out of 500. Fortunately, we didn't have to call any of them. A lot of those 21 are here, I notice. I am glad some of you responded and would be willing to go to Pierre if necessary. We did not have a real legislative problem last time, but we might have one at the next session. So, at the state-wide level, we have the Association which can improve the image of pharmacy.

The final group is the Board of Pharmacy. This is the place decisions are made — governmentally. A wrong decision by a Board can ruin many, many man-hours at the local level. I have seen it in politics: you work hard at all levels and a candidate can say the wrong thing and ruin it all. The Board of Pharmacy, the governmental group, must be sure that its decisions are correct and it must positively be on the ball at all times to interpret public policy from your dealings with others. It is very simple: the areas in which we have to work are our drug store, you yourself, and your advertising. At the state level, we have the Association and the Board of Pharmacy. We are working hard at the state level to get **that** part working well. Frankly, the more I look at this it is not the biggest part. The drug store itself is the place. Naturally, you gentlemen have to do it. We can provide certain tools for your drug stores and we hope to provide more of those so that you might use them in your stores. We get all kinds of things in the mail and I would love to send more of it out but I wonder how many of you would take time to do something with it. That is what bothers me. Before long, though, we will be sending this type of thing out.

That is my report. It is very short and simple and it is strictly on public relations and the image we can hope to improve in South Dakota.

I am very pleased with this successful convention. It is well organized; it is good.

Again, I really enjoy working with this Association.

REPORT OF THE TREASURER SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION

J. C. Shirley, Treasurer
Brookings, South Dakota

GENERAL FUND ACCOUNT

Balance June 3, 1963		$ 1,761.27
Deposits for year		9,151.00
Deposit from C. & L. to General Fund from last year has not been transferred		52.00
		10,964.27
Disbursements for year		8,947.44
Balance		2,016.83
Bank Balance as of April 14, 1964		2,495.76
Less Checks Outstanding:		
No. 3689 Internal Revenue	$208.92	
No. 3691 Harold Schuler	215.33	
No. 3692 N. W. Bell Telephone	54.68	
Total Checks Oustanding		478.93
Balance on Deposit April 14, 1964		2,016.83

COMMERCIAL AND LEGISLATIVE FUND

Balance on Hand June 3, 1963		$ 909.48
Deposits for the year		4,744.35
		5,653.83
Total Disbursements for year		4,878.39
Balance		775.44
Less deposit of April 2, 1963 to General Fund; was not transferred to C. & L. Fund		52.00
Balance to be accounted for		723.44
Bank Balance as of April 20, 1964		909.14
Less Checks Oustanding:		
No. 521 Bonnie Stenrud	$10.00	
No. 856 Internal Revenue	56.21	
No. 857 Harold Schuler	58.98	
No. 858 Harold Schuler	60.51	
Total Checks Outstanding		185.70
Bank Balance as of April 4, 1964		723.44

REPORT OF THE TREASURER SOUTH DAKOTA BOARD OF PHARMACY

J. C. Shirley, Treasurer
Brookings, South Dakota

Balance June 3, 1963		$ 2,996.50
Deposits for year		16,739.00
		19,735.50
Disbursements for year		15,137.21
Balance to be accounted for		4,598.29
Bank Balance as of April 23, 1964		5,542.55
Less Checks Outstanding:		
No. 3843 W. L. Schugel	$ 5.00	
No. 4165 Capitol Supply	14.40	
No. 4168 Andy Paulson	2.00	
No. 4178 Internal Revenue	340.50	
No. 4179 Social Security	146.81	
No. 4180 Harold Schuler	215.33	
No. 4181 Carveth Thompson	70.80	
No. 4182 Tom Haggar	17.39	
No. 4183 Pierre Nat'l Bank	5.13	
No. 4184 Harold Schuler	37.90	
No. 4185 State Publ. Co.	89.00	
Total Checks Outstanding		944.26
Balance on Deposit April 23, 1964		4,598.29

ANNUAL REPORT OF SOUTH DAKOTA BOARD OF PHARMACY

Roger Eastman, Chairman
Platte, South Dakota

The Board has been at a busy pace the last year. We have had ten meetings. Carveth Thompson, Faith, joined the Board last October and the other member is Tom Haggar, Watertown.

We met with the Stockgrowers' Association several times to try to iron out some of the problems concerning the sale of animal medicines. After much discussion, all agreed to support the proposal to raise the Patent and Poison License fees from $3.00 to $6.00. The extra revenue is expected to be about $9,000 to $10,000 and is to be used to hire another drug inspector. Another inspector will permit us to provide closer supervision of the Patent and Poison License holders who sell animal medicines. These fees are not due until later this year so we will not be considering another drug inspector until the turn of the year.

As a member of the Legislative Committee of the Association, along with Tom Haggar and Mel Holm, we made a number of trips to Pierre to assist Association Secretary Harold H. Schuler with the legislative work. I am happy to report that both measures passed.

The Board attended the Fifth District Meeting at Iowa City in October along with some of the School of Pharmacy faculty. Recently we visited the School of Pharmacy at Brookings and had some good discussions with Dean LeBlanc and Dr. Gross. We also met with the State Department of Health, Hospital Division, in regard to some new regulations they are drafting for nursing homes and homes for the elderly. These regulations included matters concerning the distribution of drugs and we were successful in amending them so that the public health is properly protected with the skills of pharmacists in the handling of drugs in such institutions. The Department of Health will hold hearings in late June before they finalize the regulations and they have informed us that we will be in on the hearings.

We now have a newsletter released from time to time which is a great help in keeping all of our members informed about the Board of Pharmacy and the Association.

We have held a number of conference phone calls on problems which come up from time to time. The Secretary is in constant touch with me and the Board on any questions which come up in regard to the administration of the many divisions in our program. The Drug Inspector, Harry Lee, has been all over South Dakota checking on the thousands of license holders regulated by the Board of Pharmacy. Here is a brief summary to show how broad an area the Board of Pharmacy is concerned with:

License Holders	Total as of June 1, 1963	Total as of May 17, 1964	Gain or Loss
Patent Medicine	2,315	2,317	+ 2
Poison	764	937	+173
Household Remedy	136	140	+ 4
Drug Stores	241	236	- 5
Pharmacist Renewals	918	904	- 14
Free Armed Forces	14	14	0
Honorary Membership	4	4	0
Asst. Pharmacists	1	1	0
Total Pharmacists Licensed	937	923	- 14
Total Licenses Issued	4,393	4,553	+160

The drop in pharmacists is because those who passed the June, 1963 examination are in the 1963 report. We have not given the Boards yet, but will do so June 8, 9, and 10 and we will have 14 taking the examinations. The reason for the small number taking the examinations this year is due to the fact that the School of Pharmacy is going to the five-year requirements, so none of the candidates are from the College this year. If all 14 pass, it will bring the total to 937, the same as last year.

REPORT OF THE DRUG INSPECTOR

Harry Lee
Alcester, South Dakota

Through the efforts of the Board of Pharmacy, our secretary, and members of our Association, we now have license fees for both poison and patent medicines at six dollars. We are the one state with a Household Remedy Law confining the sale of U.S.P. and N.F. drugs to drug stores. Only by examination and by being located eight miles from drug store service is there competition to you with these items. Let's keep it that way.

As pharmacists, it is up to you to conduct your pharmacy in such a manner that patent medicine licensees cannot point to your operation as identical with theirs. To you, I recommend designated and restricted areas be well maintained; all pharmacy signs, exclusive clerk service, and temporarily closed signs be conspicuously displayed.

Any pharmacist allowing a non-registered pharmacist to fill prescriptions during his absence should be brought before the Board of Pharmacy to account for his actions. Poison and exempt narcotic records, in many stores, could be used more. Your help in many stores is not properly informed. In one store, the help knew Tricodeine should be recorded, but not Cheracol or E. T. H. c Codeine.

Violations are still numerous. Any new out-of-state people, starting a new business, usually have to be contacted and informed as to what they can sell as patent medicine or poison license holders. Watkins sales people are being well educated in their saleswork by holding educational meetings. At Mitchell, I visited one of their meetings and sold seventeen patent and poison licenses. If you have any of them working in your area, kindly report to our secretary or inspector and they will be contacted. Rawleigh, McNess, and others also operate in our state.

The past year I have contacted several wholesalers, grain elevators, hardware stores, variety stores, groceries, oil stations, cafes, etc. These places have kept me so busy that my visitations to drug stores have been somewhat limited, but all drug stores are subject to review.

The past year, I have attended all Board and Executive meetings possible. I do appreciate the support and help given me by everyone in the Association. Thank you.

REPORT OF NARD CONVENTION

Melvin Holm
Redfield, South Dakota

I would like to take this opportunity to thank you for sending President Shanholtz and me to the NARD Convention in Chicago. I did not prepare a report because you can read a much better report in the NARD **Journal.**

REPORT OF THE PHARMACEUTICAL EDITOR SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY

Guilford C. Gross
Brookings, South Dakota

This report will mark the termination of my association with the **South Dakota Journal of Medicine and Pharmacy** as editor of the Pharmaceutical Section. As I am sure all of you know, my appointment as dean of the College of Pharmacy, South Dakota State University, becomes effective July 1; the additional responsibilities attending this appointment have necessitated the submission of my resignation as pharmaceutical editor of the **Journal.** Your president, Mr. Shanholtz, has my letter of resignation and, I understand, this will be submitted to the Executive Committee during this convention.

In reflecting over the three-year period during which I was privileged to hold this position, I wish to say that the experience has been an interesting and rewarding one. I am especially grateful for the excellent cooperation that was accorded me by the officers and members of this Association. I only hope that you found my services to be satisfactory and that the Pharmaceutical Section has met with your approval.

My successor will be named by your Executive Committee, but I have taken the liberty of recommending to them the appointment of Dr. Gary Omodt of the College of Pharmacy staff. I know that he has the interest and capabilities to do an excellent job.

Again, I thank you for the privilege of having been permitted to serve in this post and for the fine support that you have given me.

REPORT OF THE COLLEGE OF PHARMACY COMMITTEE

Harold E. Bittner, Chairman
Tripp, South Dakota

The members of the College of Pharmacy Committee are Harold E. Bittner, Stanford D. Schmidt, and Marlyn K. Christensen.

Inasfar as I know, this is the first year since the Division of Pharmacy was established that there will be no graduates. This situation was brought about by the introduction of the five-year curriculum. All of the four-year students graduated in June, 1963, and the first class of five-year students will not have completed the requirements for graduation until June, 1965.

The fall semester enrollment was 218 in the first four years of work. Inasmuch as there will be no graduates in June and a good sized class will enroll next September, the enrollment in Pharmacy beginning in September of this year should be somewhere between 275 or 285 students in the full five-year curriculum.

Clark T. Eidsmoe, professor and head of the Pharmacy Department, will retire from active duty on July 1 and become professor emeritus. Mr. Eidsmoe joined the staff of the Division in 1929 as an instructor and in 1940 was made a full professor and head of the Pharmacy Department. He has always been devoted to the profession of pharmacy and to pharmaceutical education. We know that he will be missed by the faculty and the students of the Division; and to us who have graduated, it will not seem quite like the same Division from which we graduated. The Committee and I know everyone here wishes Professor Eidsmoe and his wife the best of everything and many happy years of retirement.

On July 1, Dr. Guilford C. Gross, presently professor and head of the Pharmacology Department, will take over the duties as dean of the College of Pharmacy at South Dakota State University. Dr. Gross joined the staff of the college in 1940. We consider the choice of Dr. Gross as dean of pharmacy by President Briggs an excellent one. We consider him very well qualified and eminently fitted in every way to assume his new duties. We know that the College of Pharmacy will prosper and grow not only in numbers but also educationally, and that the prestige of the college will be enhanced both locally and nationally under the able leadership of Dean Gross. We heartily congratulate him and wish him every success. We know he will have the full cooperation of all of you.

As you have probably noted in the previous paragraph, we have referred to the Division of Pharmacy, South Dakota State College, as the College of Pharmacy, South Dakota State University. This change in name becomes effective on July 1 of this year.

Each year our Association and the Board of Pharmacy grant a tuition scholarship to a worthy, needy, entering pharmacy student. We recommend that these two scholarships be continued.

We hope that the new science building will be ready to occupy by September 1. Pharmacy will lose some space in the administration building, but the space it will gain in the new building will more than compensate for the lost space. Pharmacy will occupy not only the third floor of the new building, but will have a suite of rooms on the lower floor for the work in bionucleonics.

The College of Pharmacy would like to have a new wing added to the science building. The new wing would be occupied solely by pharmacy. The estimated cost of such construction would be approximately $700,000. There is a possibility that if the State Legislature will make an appropriation of $350,000, it can be matched by the Federal Government with another $350,000. An application for federal funds will be submitted.

REPORT OF EARL R. SERLES MEMORIAL SCHOLARSHIP AND LOAN FUND

Floyd J. LeBlanc, Dean
Division of Pharmacy
South Dakota State College

Contributions to the Earl R. Serles Memorial Scholarship and Loan Fund have been few and far between this past year. We again want to re-emphasize that anyone may make a contribution to the fund in memory of a deceased pharmacist, or anyone may make a personal contribution.

This past year the first E. R. Serles Memorial Scholarship was granted. The recipient was Mary Thoman of Rapid City. There should now be enough funds derived from interest only so that a scholarship can be awarded each year.

Loans

	Amount	Paid	Due
Nickander, Rodney	$100.00		$100.00
Youells, Richard	80.00		80.00
Thompson, Robert	200.00		200.00
Totals	$380.00		$380.00

Assets 1963-64

Total assets 1962-63 report	$4,337.63
Interest 1963-64 (Building and Loan)	132.64
Interest paid on loans (Thompson, Robert)	8.00
Donations	12.00
	$4,490.27

Expenditures 1963-64

Scholarship (Mary Thoman)	$ 198.00
Total assets May 17, 1964	$4,292.27

The above assets are accounted for as follows:

Deposit (Building and Loan)	$3,416.05
Cash in bank	496.22
Loans outstanding	380.00
Total assets	$4,292.27

The interest, which is included in the total assets and which may be used for scholarships, is listed below as a matter of record.

1957-58 Report	$ 39.53
1958-59 "	67.16
1959-60 "	102.42
1960-61 "	117.80
1961-62 "	130.54
1962-63 "	147.50
1963-64 "	140.64
Total interest received	$745.59
Less scholarship 1963-64	198.00
Interest available for scholarships	$547.59

Memorials 1963-64

Charles Locke	
Mrs. E. R. Serles	$5.00
Chan Shirley, Gerrit Heida	5.00
Mr. and Mrs. Eidsmoe	2.00

The Committee is made up of Gerrit Heida, W. G. Ray, and Floyd J. LeBlanc.

GRIEVANCE COMMITTEE REPORT

Floyd M. Cornwell, Chairman
Webster, South Dakota

It is with pleasure that I report the profession of pharmacy in South Dakota for the year 1963-64 is in good order.

To date, no grievance has been reported to the Committee during the past year.

The committee is made up of Floyd M. Cornwell, A. Y. McKay, and Neil Fuller.

REPORT OF THE NOMINATIONS COMMITTEE

Philip Case, Chairman
Parker, South Dakota

The Nominations Committee presents the following nominations:

President	
Melvin Holm	Redfield
1st Vice President	
Nina Lund	Rapid City
2nd Vice President	
Earle Crissman	Ipswich
3rd Vice President	
Lloyd Wagner	Marion
4th Vice President	
Wiley Vogt	Mitchell
Treasurer	
J. C. Shirley	Brookings

Board members for the South Dakota Board of Pharmacy:

Roger Eastman	Platte
Wayne Shanholtz	Mitchell
Murray Widdis	Sioux Falls

The Nominations Committee consisted of Philip Case, Stan Petrik, Jim Warrell, Clayton Scott, and George Minard.

REPORT OF THE RESOLUTIONS COMMITTEE

Nina Lund, Chairwoman

Rapid City, South Dakota

The Resolutions Committee composed of Nina Lund, Earle Crissman, and Lloyd Wagner presents the following resolutions for your approval. I have passed out a few copies so you may look them over and study them. I believe the first five resolutions can be given at the same time:

I

Resolved that we extend a vote of thanks to Martin Osterhaus, Convention chairman, the Mitchell pharmacists and their wives, the Allied Drug Travelers, and all others who made this very fine convention possible.

II

Resolved that this Association extend a vote of thanks to all the manufacturers and wholesalers who contributed prizes and to all the speakers who appeared on the program.

III

Resolved that this Association recognizes and thanks Dean Floyd J. LeBlanc and Professor Clark Eidsmoe, both of the School of Pharmacy faculty, for the many years of outstanding service to the profession of pharmacy.

IV

Resolved that this Association recognizes and appreciates the many fine years of service contributed to this Association by Bliss Wilson.

V

Resolved that this Association extends its best wishes and pledges its cooperation to Dr. Guilford C. Gross, the new dean of the School of Pharmacy, South Dakota State University.

VI

Resolved that the Veterinary Interprofessional Committee be made a standing committee.

VII

Resolved that this Association grant a $198 pharmacy scholarship to an applicant approved by the College of Pharmacy Committee.

VIII

Resolved that this Association endorse the Quality Stabilization Bill now before the U. S. Congress.

IX

Resolved that a mutual resolution be adopted with the state nurses' association re-emphasizing it is the pharmacist's duty to dispense medication and the nurse's duty to administer.

X

Resolved that the Association go on record as being opposed to the premature publicity announcements and to the procedure used by the Food and Drug Administration in the recalling of pharmaceuticals and that our delegates support similar resolutions at the national convention.

XI

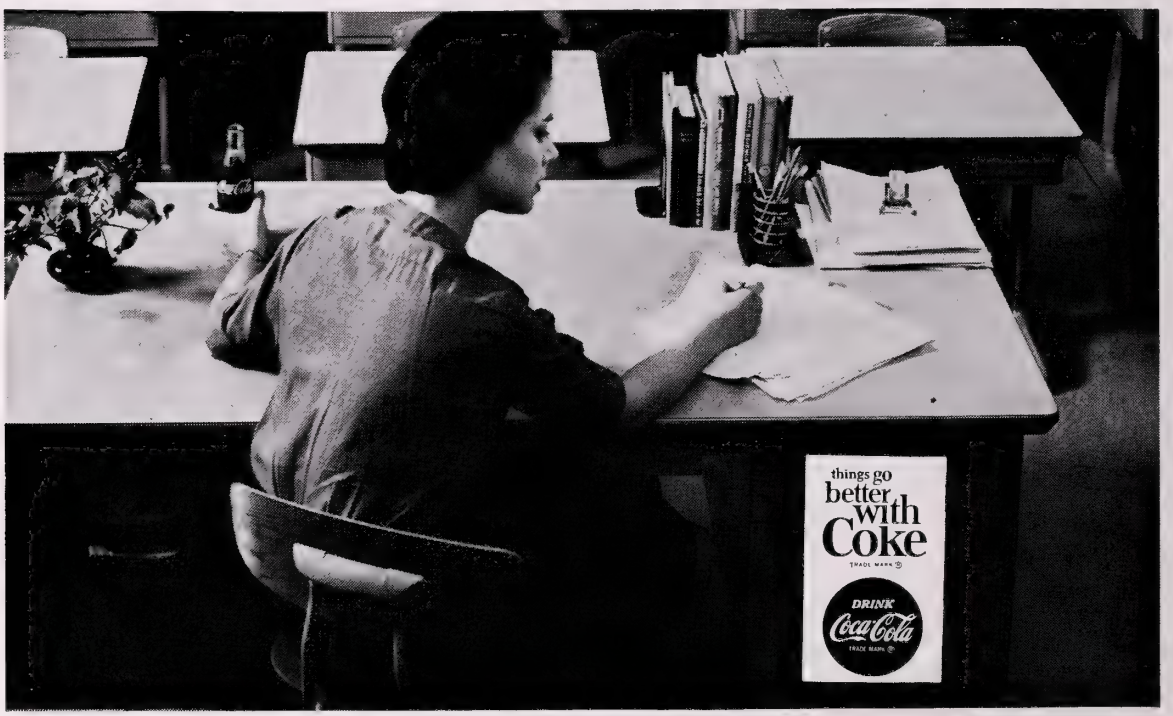
Resolved that the Interprofessional Relations Committee be instructed to study proposals of the Medical Aid to the Aged Program as to how it pertains to pharmacy.

XII

Resolved that this Association go on record opposing excessive beef imports which is greatly depressing the cattle market in South Dakota.

XIII

Resolved that this Association support the request of the South Dakota State University to obtain federal funds from the Federal Education Assistance Program to build a new pharmacy wing addition to the newly constructed chemistry building.



Whether you're a teacher correcting exams. A student cramming for them. A housewife cleaning up after the kids. Or a businessman working late at night. Whoever you are, things go better when you pause and refresh with ice-cold Coca-Cola.

REPORT OF THE TIME AND PLACE COMMITTEE

Earle T. Crissman, Chairman
Ipswich, South Dakota

This Committee wishes to thank the pharmacists of Mitchell for the fine job they have done on this convention.

We have confirmed Huron as the site for the 1965 convention. We have accepted an invitation from Watertown for 1966. Members of the Committee: Earle T. Crissman, Ipswich; M. D. Widdis, Sioux Falls; and Keith K. Keller, Viborg.

AWARDS PRESENTED AT THE 78TH SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION CONVENTION

To Professor Clark Eidsmoe:

Roger Eastman presented a plaque on which the following was inscribed:

"For outstanding service to the pharmacy profession, presented by the South Dakota Pharmaceutical Association."

To Dean Floyd LeBlanc:

Roger Eastman presented a plaque with the inscription:

"For outstanding service as Dean of the School of Pharmacy at South Dakota State College, presented by the South Dakota Pharmaceutical Association."

Professor Kenneth Redman accepted for Dean LeBlanc.

To Professor Guilford C. Gross:

Wayne Shanholtz presented the Honorary President's Plaque with the inscription:

"For outstanding work done for pharmacy in South Dakota."

Professor Gary Omodt accepted for Professor Gross.

To Neil Fuller:

A. H. Robins Company Bowl of Hygeia award.

To Jane Meehan:

Pepsodent $500 Presidential Scholarship.

To Wayne Shanholtz:

Pepsodent presented a plaque on which was inscribed:

"Awarded to Wayne C. Shanholtz, President of the South Dakota Pharmaceutical Association in recognition of outstanding service and contributions to pharmacy."

To Melvin Holm and Mrs. Holm:

McKesson & Robbins, Inc. presented a plaque-gavel to incoming president Melvin Holm and a gavel pin to Mrs. Holm. Inscription on the plaque:

"Congratulations to the new president, Melvin Holm, South Dakota Pharmaceutical Association for 1964-65, presented by McKesson & Robbins. You have been chosen to wield this gavel. Let it be not only a symbol of your office, but a tribute to your success. Use its power with purpose, with tact and with understanding."

To Wayne Shanholtz:

E. R. Squibb presented a past president's award.

To Sharon Whiting:

Jim Drey, South Dakota Drug Travelers, presented a Travelers' scholarship.

THE TEMPLATE GROUP by Leopold
a crisp new design in office furniture



MIDWEST-BEACH COMPANY
seventh and phillips -- sioux falls, s. dak.



CONVENTIONS

What motivates a person to attend a convention? The desire to increase one's knowledge about his profession or business? The desire to "keep current" on changes and modifications in laws and regulations? The desire to be elected to office? The desire to simply chat with fellow associates? The desire to "get away from it all" for a few days? The desire to "live it up" and have a good time? It perhaps is quite probable that all of the above reasons are relative to all convention groups. Certainly some of the reasons for convention attendance are more "ethical" than others, but the **reason** for attending a convention is not nearly so important as what **happens** at the convention.

When a person attends a convention, he cannot help but gain a better insight into his profession or business. He cannot help but establish a better relationship with his fellow associates. He cannot help but serve the membership by his votes on important issues. He cannot help but create a good image of his profession "back home" with his customers and friends. Although the **reasons** for attending a convention may sometimes be questionable, convention attendance in itself is a good thing for all concerned.

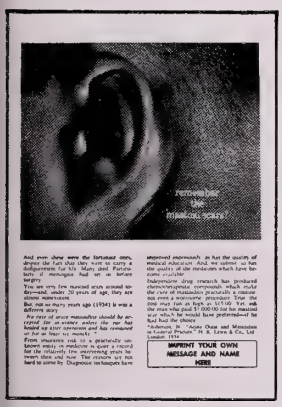
The 78th Annual South Dakota Pharmaceutical Convention was an obvious success. Organization, planning, and programming were of high caliber. Participation was good and interest was high.

One aspect of the Convention concerned itself with pharmacy's public relations. President Shanholtz stressed **education** of the public as to just what pharmacy is and is attempting to accomplish. The secretary to the Association, Harold Schuler, in his report, pointed out numerous and various ways in which we can work for better public relations. Secretary Schuler indicated the different levels on which the pharmacist can work relative to public relations. The **most important level,** however, remains and always will be "the drug store itself." How the pharmacist behaves and conducts himself in his establishment is most apparent to everyone. Here is the place to really educate the public to pharmacy.

On page 65 of this issue, there is some thing in which we all should be interested — an additional means by which we can work for the betterment of pharmacy in the public eye. The title is "How To Help Pharmacy In Your Community." Through the courtesy of the Pharmaceutical Manufacturers Association, free reprints of four pharmaceutical information sheets are available to anyone who requests them. The sheets deal with such subjects as drug prices; the contribution of drugs to a longer, healthier life; and how pharmacy serves America. They may be used on counters, in windows, as package stuffers, etc.

It would be a very definite step forward for pharmacy in South Dakota if you would turn to page 65, clip the coupon, fill it out, and mail it in. Then make good use of the reprints.

how to help pharmacy in your community



And even those were the fortunate ones, despite the fact that they were to carry a disfigurement for life. Many died. Puerile fever, meningitis had set in before surgery.

You are very few married men around today, under 30 years of age, they are almost maiden.

But not so many years ago (1934) it was a different story.

We can only assure masculine should be arrested for a winter unless the war has loaded up sixty operations and has remained at five or four months."

From insurance risk is a gratefully un- [illegible] [illegible] [illegible]

PRESIDENT'S PAGE

Rx



Hi fellow pharmacists, members of the Association and friends. I do want to thank you for the honor of being elected to the presidency of the South Dakota State Pharmaceutical Association for the ensuing year. I will try to handle any problems called to my attention in the interim period.

You know as well as I, that many problems are confronting us today in the field of pharmacy. One of the most important is the Quality Stabilization Bill ♯S774 and HR3669. If the small druggist is to survive this vicious attack of so-called "discount houses," he must rally to the support of this bill.

We must watch closely the uses of substandard drugs and medications in the treatment of welfare and old age assistance patients. We need the services of another Drug Inspector to bring the standard of competition up to a safe level for public health that we as pharmacists hold.

Sincerely,

Melvin C. Holm

President

PHARMACEUTICAL NEWS

LeBLANC HONORED

Floyd LeBlanc was named recipient of the WCCO Radio "Good Neighbor Award" on the radio program "Good Morning" on June 17. Awards such as this are made to persons who have contributed to the betterment of their communities.

As a "Good Neighbor Award" winner, LeBlanc received a transcript of the on-the-air citation as well as a certificate from WCCO Radio and the sponsors of the program, Northwest Orient Airlines and the Ford Dealers of the Northwest.

LeBlanc retired as of July 1 as dean of the College of Pharmacy at South Dakota State University.

OMODT ATTENDS SYMPOSIUM

Gary Omodt, associate professor and head of the Pharmaceutical Chemistry Department at South Dakota State University attended a symposium of the Medicinal Chemistry Section of the American Chemical Society at Minneapolis, June 22, 23, and 24. Several new and important aspects of medicinal chemistry were discussed.

A Parke, Davis & Company research chemist held out the prediction of long-acting drugs to protect against various diseases for **up to one year.**

The group sought to find compounds which would relieve inflammation, lessen pain and reduce fever, and at the same time be free of drug dependence and other side effects associated with **cortisone and related steroids.**

STATE HISTORIAN

Dr. Herbert C. Raubenheimer, chairman of the Historical Section of the American Pharmaceutical Association, has released the list of State Historians whose appointments begin in August, 1964. Included in this list is the State Historian, **Kenneth Redman,** for the state of South Dakota who will serve as liaison for the Historical Section with those interested in preserving the history of the profession of pharmacy within the state. Professor Redman will work with the state historical societies and other interested persons in obtaining and releasing historical material in regard to the profession of pharmacy.

PHARMICS HONORED AT CONVOCATION

The Honors Convocation at South Dakota State University recognized students from all classes ranking in the upper ten per cent of their class and with a grade average of at least "B." Pharmacy students so honored are as follows: **Rodney R. Parry,** Canistota; **Marvin P. Schmidt,** Blakely, Minn.; **Robert C. Schnell,** Sturgis; **Loren Schweigert,** Gregory; **William B. Isaksen,** Springfield, Minn.; **Norman D. Muilenburg,** Edgerton, Minn.; **Theodore A. Westley,** Aberdeen; **Norma M. Hanson,** Brookings; **Timothy J. Pearson,** Sisseton; **Vernon E. Peterson,** Dell Rapids; **Wesley D. Putnam,** Onida; **Beverly K. Walker,** Huron; **Marion Fiedler,** Java; **William T. Haisch,** Bonesteel; **Joanne M. Herman,** Olivet; **Dave A. Kuper, Shirley K. Lowe,** and **Mary A. Waggoner,** Sioux Falls; and **Barry L. Markl,** Edgerton, Minn.

SENIOR CLASS GIFT TO HELP INAUGURATE 'SDSU'

Members of the class of '64 at South Dakota State University announced the traditional senior class gift at the annual Commencement program — a gift that helped to inaugurate the institution's designation as a university on July 1.

Gary M. Jennings of Miller, president of the class of '64, presented the gift, which will finance the change of the stone marker at the foot of the Campanile from "South Dakota State College" to "South Dakota State University."



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"PORTABLE BULLETIN BOARD" OF MEDICINE

Essentially the state journal is the tie that binds. It is the visible thread that runs from one corner of the state to the other. It is the only such ligature. It is an opinion medium for legislative, medicolegal, organizational, economic, and administrative topics. It is the officers' way of reaching the membership; and it is the members' way of letting the officers know what they — the members — think. It is a portable bulletin board for telling the readers what's going on. Without this liaison among members, their esprit-de-corps, their feeling of professional identification, and their sense of organizational identity might well atrophy. — Henry A. Davidson, M.D., in **Journal of the Medical Society of New Jersey,** 61:1 (Jan.) 1964.

WANT TO USE NEW DRUGS? SIGN HERE

Certainly, getting permission for a patient's participation in a drug study should come easier than permission for an autopsy. We are all familiar with the new surge of interest in visitors as requests for permission of any kind become necessary. A return to the people may bring a greater confidence for the physician and improve the image about which we so frequently hear.
Harry C. Shirkey, M.D., in **Southern Medical Bulletin,** 51:4 (Dec.) 1963.

DRUG RESEARCH BOARD'S MOST IMPORTANT JOB

We must all remember that the pharmaceutical industry is not a leper, nor is the F.D.A. a big, bad wolf which desires to punish or destroy the industry. It is most important for the health of our nation that mutual confidence and politeness be developed between the industry and the F.D.A. because out of it will come an understanding which will benefit all of us sooner or later. It will be a matter of life or death to many of us that permanent trust and good relations be developed between these two groups. Perhaps the NAS-NRC Drug Research Board can bring about this rapprochement. If it does not it will have failed in its most important mission. — The Kefauver-Harris Amendments, the Pharmaceutical Industry, and the F.D.A. **Resident Physician,** 10:1 (Jan.) 1964.

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PRO-BANTHĪNE (propantheline bromide) Assures Authoritative Anticholinergic Control in Gastrointestinal Dysfunctions

The clear and consistent therapeutic benefits of Pro-Banthīne (propantheline bromide) have made it the preferred anticholinergic for the past decade.

During that time, many compounds have been developed and proposed as alternatives. In the appraisal of Roach[1] ". . . few, if any, have seemed to offer a distinct improvement, . . ."

Early investigations showed that Pro-Banthīne (propantheline bromide) reduces motility and acid secretion and may be used in a wide range of dosage, to bring prompt, positive anticholinergic benefits to patients with peptic ulcer, spastic colon, pylorospasm and related gastrointestinal dysfunctions.

Recent evaluations sustain these earlier judgments. In a current authoritative assessment based mainly on the factors of potency, superiority to atropine, clinical experience and physiologic study, Steinberg and Almy[2] select as the first two preferred anticholinergic drugs, methantheline [Banthīne] and propantheline [Pro-Banthīne].

The name Pro-Banthīne (propantheline bromide) sets a stamp of therapeutic authority on any anticholinergic prescription.

Side Effects and Precautions—Urinary hesitancy, xerostomia, mydriasis and, theoretically, a curare-like action may occur. The drug is contraindicated in patients with glaucoma or severe cardiac disease.

Dosage—The usual adult dosage is one tablet of 15 mg. with meals and two at bedtime; this amount may be doubled or tripled for patients with severe conditions. Pro-Banthīne (brand of propantheline bromide) is supplied as tablets of 15 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

SEARLE

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Research in the Service of Medicine

1. Roach, T. C.: Therapy of Peptic Ulcer, J. Louisiana Med. Soc. *115*:136-139 (April) 1963.
2. Steinberg, H., and Almy, T. P., Drugs for Gastrointestinal Disturbances, Chapter 21, in Modell, W. (editor): Drugs of Choice –1964-1965, St. Louis, The C. V. Mosby Company, 1964, p. 343.

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THE DERMATOSES THAT WERE STEROID-UNTREATABLE

Salt and water retention, edema, overstimulation of the appetite, excessive weight gain, mood swings—these were some of the problems that used to confront physicians when they wanted to prescribe steroids for dermatoses. For patients already overweight, or with edema associated with cardiovascular disease, or those who were tense and anxious, steroid treatment could aggravate their problems. But with the advent of ARISTOCORT® Triamcinolone, many of these patients became "steroid-treatable." The reason: Not only did *this* steroid provide gratifying symptomatic relief, but it did so *without* the penalty of overstimulation of the appetite, excessive weight gain, salt and water retention, edema, and undesirable euphoria. And these benefits have been confirmed for other patients with steroid-susceptible disorders, as well as those formerly untreatable.



Side Effects: Since it may, under some circumstances, produce many of the unwanted effects common to all cortisone-like drugs, discrimination should always be exercised in administering ARISTOCORT® Triamcinolone. Any of the Cushingoid effects are possible, as are purpura, G.I. ulceration, increased intracranial pressure and subcapsular cataract. Corticosteroids generally may mask outward signs of bacterial or viral infections. Catabolic effects to watch for include muscle weakness and osteoporosis. Weight loss may occur early in treatment but is usually self-limiting.
Contraindications: While the only absolute contraindications are tuberculosis, herpes simplex and chicken pox, there are some relative contraindications (peptic ulcer, acute glomerulonephritis, myasthenia gravis, osteoporosis, fresh intestinal anastomoses, diverticulitis, thrombophlebitis, psychic disturbance, pregnancy, infection) to weigh against expected benefits.

A single daily dose may provide effective control, is convenient for the patient, and can be employed in both initial and maintenance therapy.

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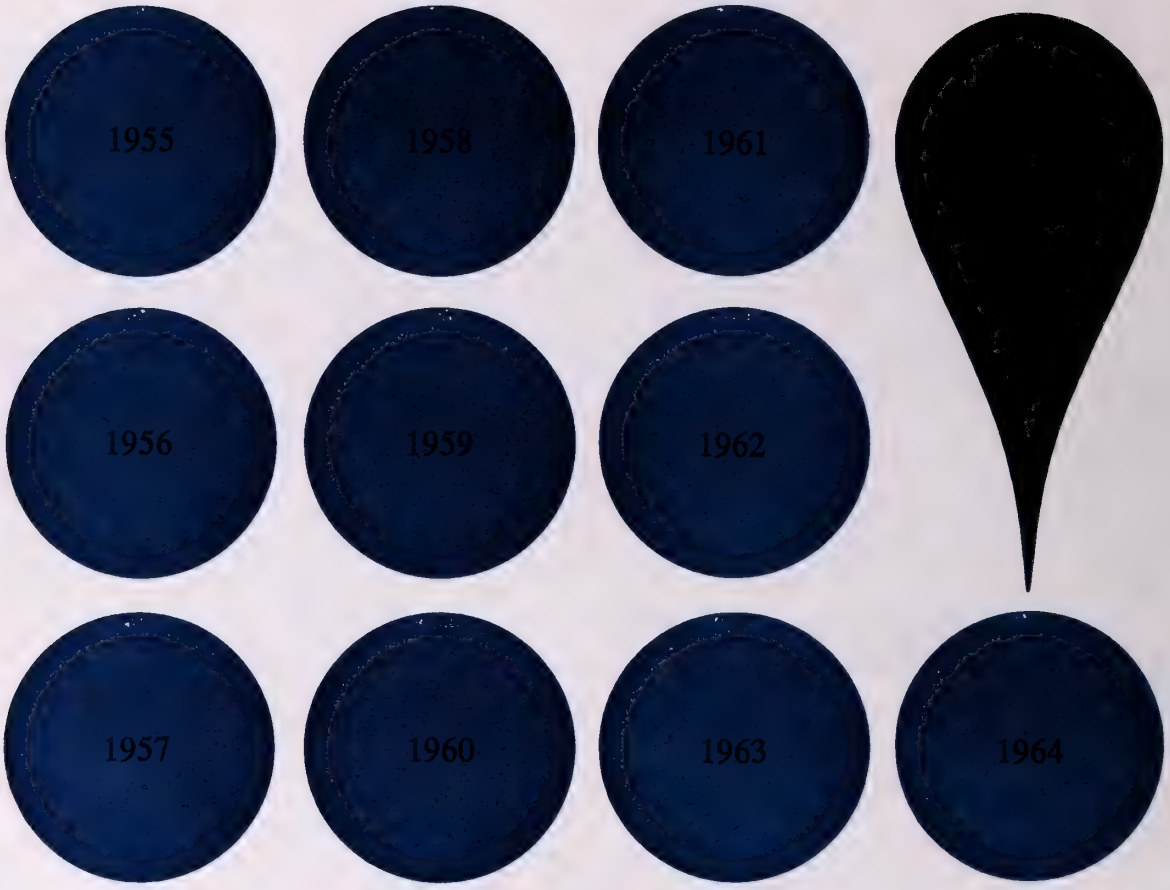
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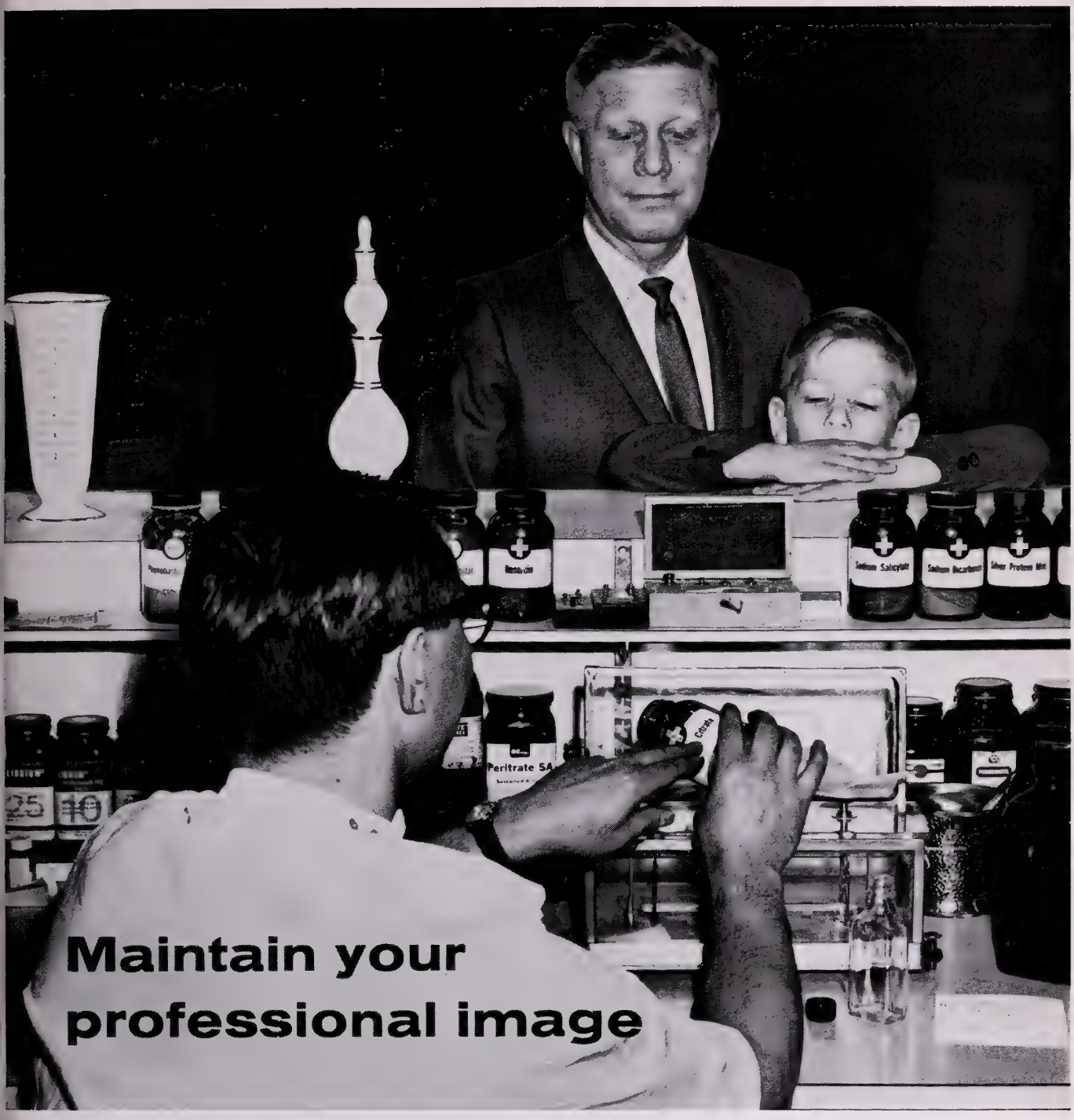


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INDICATED in hypertension with or without edema, and in all types of edema involving salt retention. May be helpful in some cases of lymphedema, idiopathic edema and edema due to venous obstruction.

SIDE EFFECTS: Skin rash (rare), gastrointestinal disturbances, weakness and dizziness, seldom so severe that drug should be stopped. Generally, the adverse effects sometimes associated with the thiazide diuretics are possible. Pre-existing electrolyte abnormalities may be aggravated.

CONTRAINDICATION: Anuria.



1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. *J. Amer. Geriat. Soc.* 11:945 (Oct.) 1963.
2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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to produce large volume of watery bile, hydrate the bowel contents and gently stimulate the intestinal mucosa

BELLADONNA EXTRACT.....10 mg (⅙ gr)
to reduce smooth-muscle hypertonus

Average adult dose: 1, or if needed, 2 tablets three times daily. *Precautions:* Observe patients periodically for increased intraocular pressure and barbiturate habituation or addiction. Caution drivers against possible drowsiness. *Side effects:* Dehydrocholic acid may cause transitory diarrhea; belladonna — blurred vision, dry mouth. *Contraindications:* Biliary tract obstruction, acute hepatitis, glaucoma, and prostatic hyperplasia. *Available through your regular supplier:* DECHOLIN-BB, bottles of 100 tablets. 72664

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How to prescribe Valium (diazepam)

Indications: Valium (diazepam) is of use in dealing with anxiety reactions stemming from stressful circumstances or whenever somatic complaints are concomitants of emotional factors. It is useful in psychoneurotic states manifested by anxiety, tension, fear and fatigue. Valium (diazepam) may also be useful in acute agitation due to alcohol withdrawal. Valium (diazepam) may be of use to alleviate muscle spasm associated with cerebral palsy and athetosis.

Dosage and administration	*Usual daily dose*
Mild to moderate psychoneurotic reactions: Manifested by anxiety-tension alone or with depressive symptomatology, agitation, restlessness, psychophysiological disturbances	2 mg to 5 mg, 2 or 3 times daily
Severe psychoneurotic reactions: Where severe anxiety, fear, agitation, aggression or hostility exist alone or with depressive symptoms	5 mg to 10 mg, 3 or 4 times daily
Alcoholism: As an aid in symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis	10 mg, 3 or 4 times during the first 24 hours; reducing to 5 mg, 3 or 4 times daily as needed
Muscle spasm associated with cerebral palsy or athetosis	2 mg to 10 mg, 3 or 4 times daily

Contraindications: Valium (diazepam) is contraindicated in infants, patients with a history of convulsive disorders or patients with a history of glaucoma.

Warning: Valium (diazepam) is not of value in dealing with psychotic patients manifesting anxiety and should be avoided when there is reason to believe the patient is psychotic.

Precautions: In elderly or debilitated patients, it is important to limit the dosage to the smallest effective amount to preclude the development of ataxia or oversedation (not more than 1 mg, 1 or 2 times daily initially, to be increased gradually as needed and tolerated). As is true of all CNS-acting drugs, until the correct maintenance dosage is established, patients receiving Valium (diazepam) should be advised against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving an automobile during the period of Valium (diazepam) therapy is not recommended. In general, the concurrent administration of Valium (diazepam) and other psychotropic agents is not recommended. If such combination therapy is used, careful consideration should be given to the pharmacology of the agents to be employed with Valium (diazepam) — particularly with known compounds which may potentiate the action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Since Valium (diazepam) has a central nervous system depressant effect, patients should be advised against the simultaneous ingestion of alcohol and other central nervous system depressant drugs during Valium (diazepam) therapy. Safe use of Valium (diazepam) during pregnancy has not been established. The usual precautions are indicated when Valium (diazepam) is used in the treatment of anxiety states where there is any evidence of impending depression; particularly the recognition that suicidal tendencies may be present and protective measures may be necessary. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Side effects: In clinical use, fatigue, drowsiness and ataxia have been reported; in most instances these are dose-related and may be avoided by proper dosage adjustment. Mild nausea and dizziness may occur on occasion. As with any new agent, when it is administered for protracted periods of time, periodic blood counts and liver function tests are advisable. After cessation after prolonged overdosage may, in some patients, produce withdrawal symptoms (*e.g.*, convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and Librium® (chlordiazepoxide HCl). Changes in EEG patterns have been observed in patients during and after Valium (diazepam) treatment.

Paradoxical reactions, such as excitement, depression, stimulation, sleep disturbances, acute hyperexcited states and hallucinations have been reported. Other side effects noted have been blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash.

Valium (diazepam) is available as 5-mg and 2-mg tablets. For convenience and economy in prescribing, both strengths are supplied in bottles of 50

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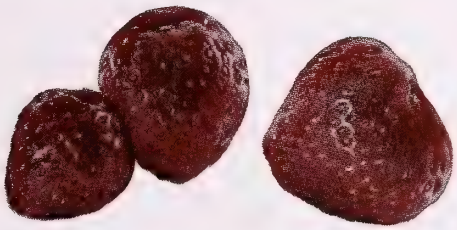


MEDICINE *and* PHARMACY

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SEPTEMBER • 1964

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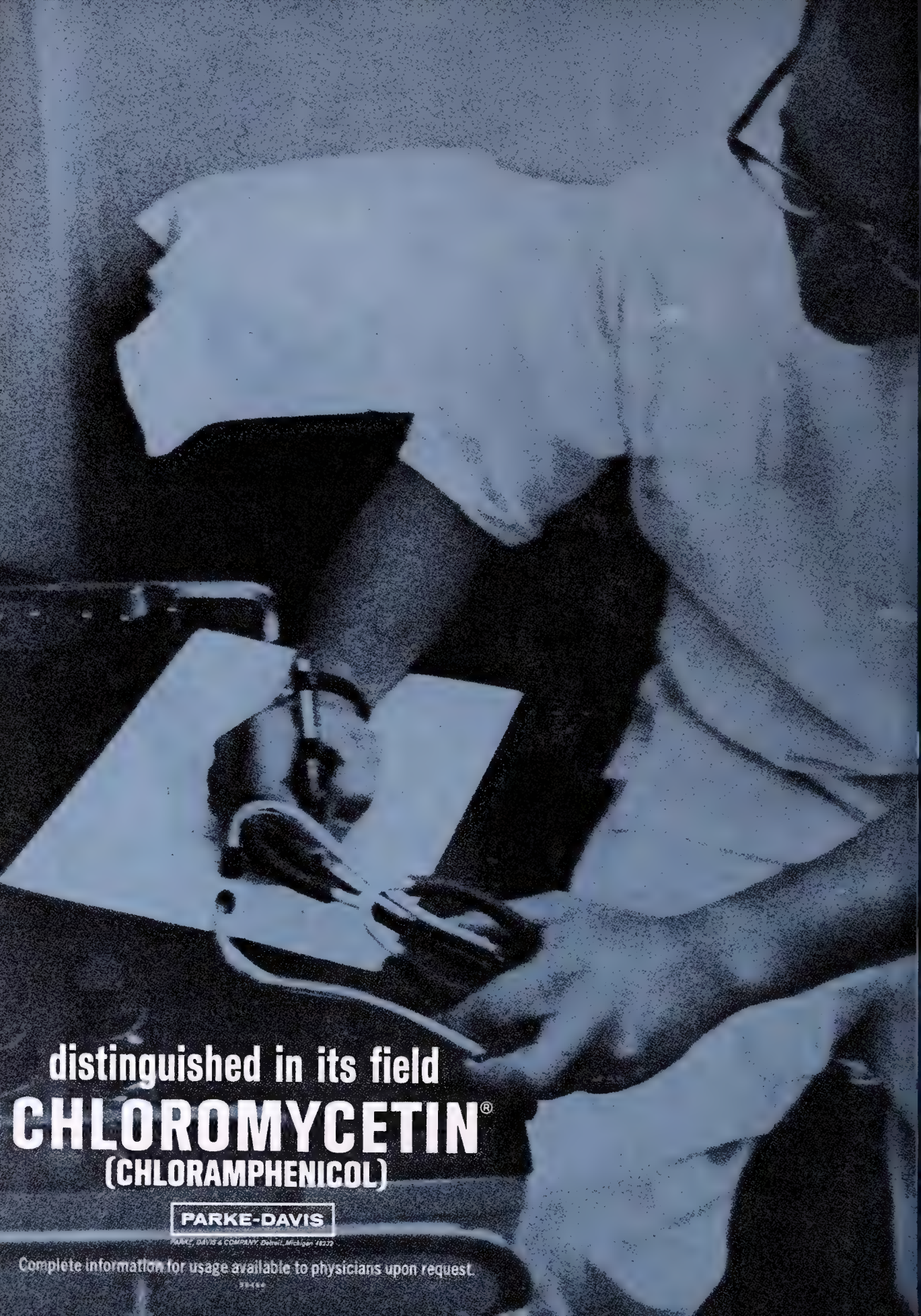
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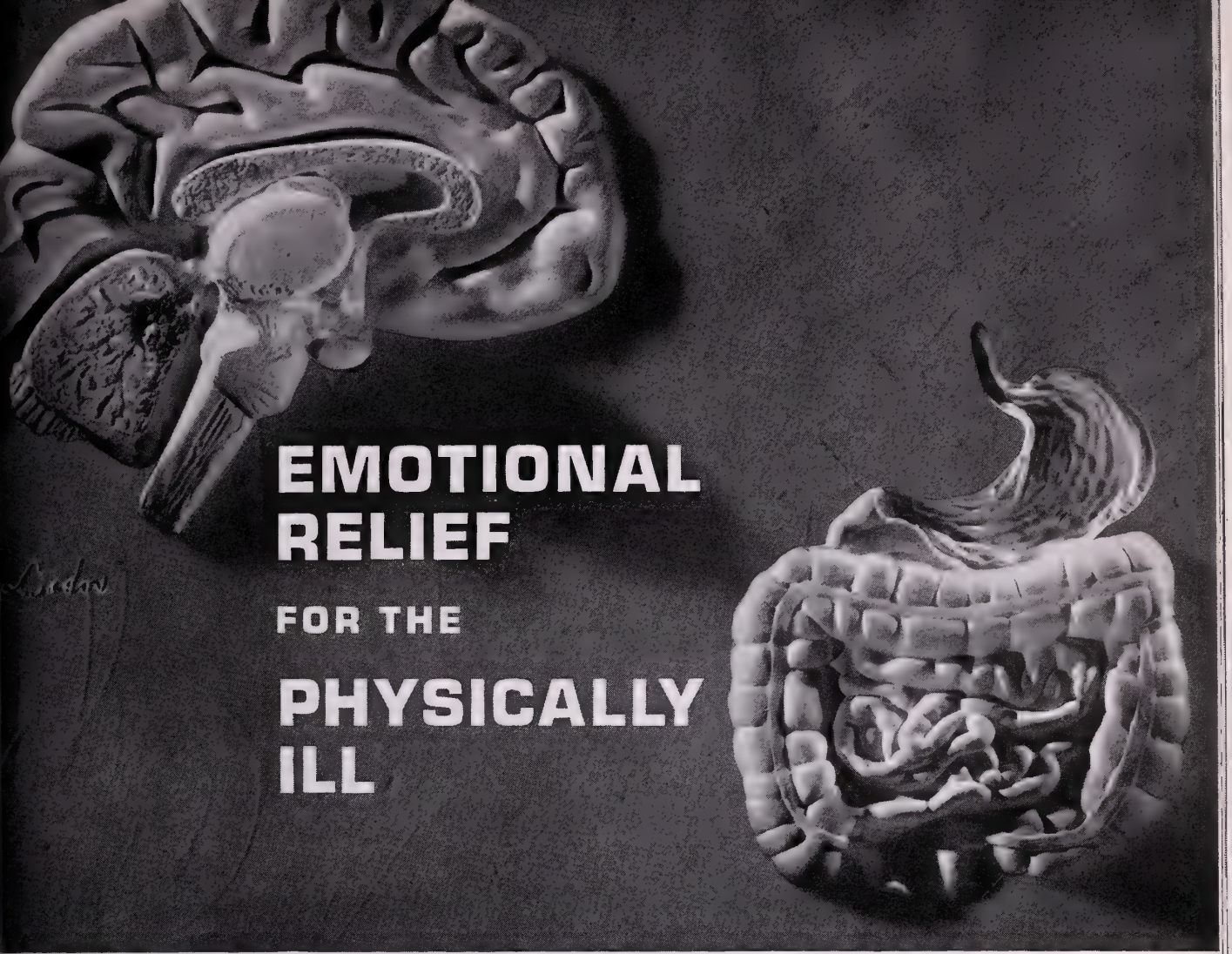
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... aids restful sleep, with no barbiturate hangover.

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(MEPROBAMATE 400 MG. SUSTAINED RELEASE)

Simplified, convenient dosage for emotional relief.

Side effects: 'Meprospan' (meprobamate, sustained release) is remarkably free of untoward reactions. Daytime drowsiness has not been reported. Rare allergic or idiosyncratic reactions may occur, generally developing after 1-4 doses of the drug.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: Should administration of meprobamate cause drowsiness or visual disturbances, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage.

Complete product information available in the product package, and to physicians upon request.

Usual adult dosage: One 400 mg. capsule or two 200 mg. capsules at breakfast; repeat with evening meal.

Supplied: 'Meprospan'-400 (meprobamate 400 mg.), 'Meprospan'-200 (meprobamate 200 mg.), each in sustained-release capsules. Both potencies in bottles of 30.

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AND

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Volume XVII **September, 1964** **Number 9**

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

Published monthly by the South Dakota Medical Association, Publication Office 711 North Lake Avenue, Sioux Falls, South Dakota



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Volume XVII **September, 1964** **Number 9**

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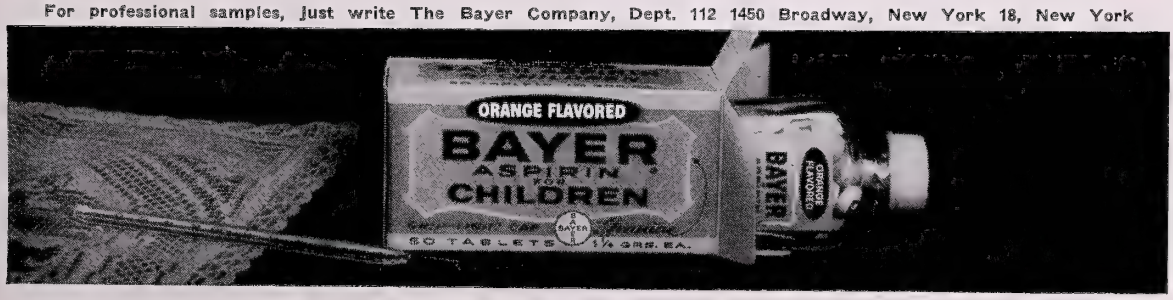


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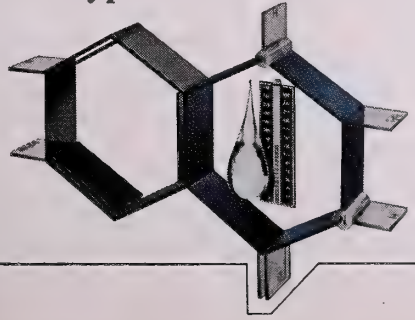
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1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. J. Amer. Geriat. Soc. 11:945 (Oct.) 1963.

2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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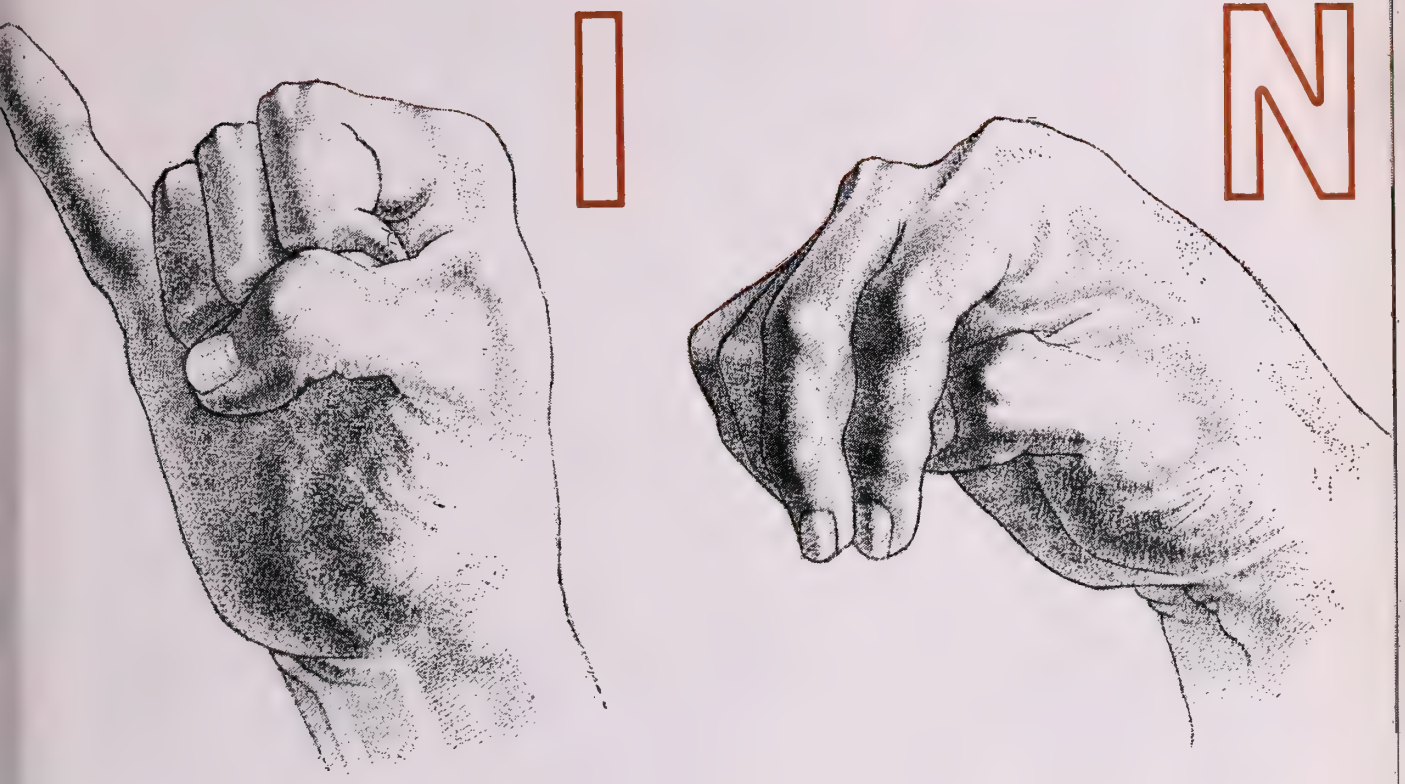
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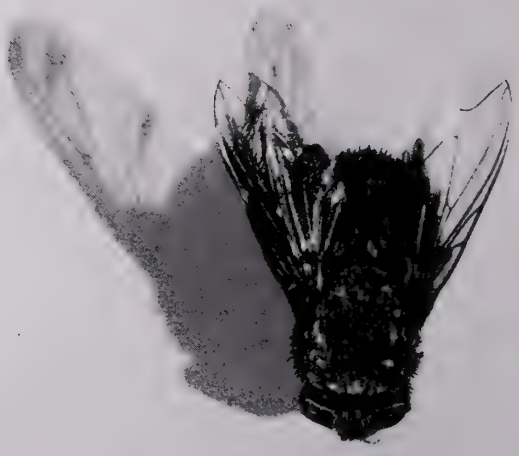
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Practical and Useful Drug Therapy Against Cancer*

by

Robert J. Samp, M.D.**

University of Wisconsin Medical Center

Madison 6, Wisconsin

FOREWORD AND GENERAL CONSIDERATIONS

Because the majority of cancers are either advanced when first diagnosed or eventually progress to this stage in spite of good surgery and x-ray therapy, conventional treatments may not be adequate to cure a high percentage of cases. Chemical treatments offer a palliative (rarely curative) means of control in certain advanced cancer patients.

It must be kept in mind that there are hundreds of cancer types and subtypes or varieties of cancer. Thus far, only a few tumors are affected by anti-tumor agents and then only in a small proportion of these patients.

The goal of chemical treatment is to cure. Failing this, one seeks to control the growth and, hence, the symptoms and complications of tumors. It is not good treatment, however, to give anti-cancer merely because metastatic cancer exists. Evaluation of the patient will determine if the cancer by symptoms and signs is progressing, which is then indication for aggressive chemotherapy.

Dr. George Moore of Roswell Park has made an excellent point of cautioning against prophylactic or anticipatory treatment, i.e., using drugs without indication of tumor growth. This may actually preclude the later use of the drug because of drug resistance, tumor cell mutations, or patient sensitiveness.

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* Reprint of a talk to the Black Hills District Medical Society, Rapid City, South Dakota, September 6-7, 1963,

** Assistant Professor, Department of Surgery and Division of Clinical Oncology.

Under these circumstances a possibly effective drug is denied the patient later when needed. Some chemotherapists have concluded from animal and human studies that there are certain cancers which may even accelerate under the influences of some anti-cancer drugs.

More immediate reasons why cancer drugs can't or shouldn't be used are:

1. Severe infections
2. Recent surgery
3. Chronic debilitation of the patient
4. Low protein intake or depressed appetite generally.
5. Liver or kidney disease causing poor function.
6. Chronic draining fistulae or body ulcers affecting body chemistry.

The severe infections should be cleared up prior to therapy. The patient should be given a chance to heal any recent surgical wounds. Those patients in negative nitrogen balance, with low serum proteins, or poor metabolic functions should have therapy postponed until the patient can withstand the toxicity that accompanies most anti-cancer drug therapy.

BACKGROUND:

Cancer chemotherapy dates from 1946. Goodman employed nitrogen mustard in Hodgkin's disease and other forms of lymphosarcoma and Farber used aminopterin (Methotrexate) in acute leukemia as well as nitrogen mustard in chronic leukemia. Hormones were used prior to this time and effectively so by Huggins and others, but specific anti-tumor chemicals or materials toxic to the cell directly are considered the start of chemotherapy. In the 17 years since the above 1946 trials there has been a tremendous acceleration in discovery and application of clinical anti-cancer agents and the biochemical facts and rationale behind them.

CLASSIFICATION:

As a simple means to remember anti-cancer chemicals, two major divisions are suggested:

1. Natural or biologic agents with an unknown mode of action and/or chemical composition, and
2. Synthesized chemical compounds specifically designed for an anti-cancer purpose.

Note that the natural or biological agents can become synthesized after the active biological portion is isolated and identified. This has been true already of certain antibiotics, hormones and vitamins.

Five sub-groups of biologicals are suggested for easier identification and classification. These are:

1. plant extracts
2. viruses
3. bacterial products
4. hormones and
5. anti-biotics

The hormones and antibiotics are primarily used because of their effectiveness and safety. Examples of these are: androgens, estrogens, cortico-steroids in the hormone group and Actinomycin and Mitomycin in the latter or antibiotic group.

The anti-tumor chemical compounds are divided into two general groups:

1. Those that act directly on the nucleic acids or other components of the cell and are referred to as cytotoxic agents;
2. Those inhibiting or preventing the formation of nucleic acids and termed anti-metabolites.

An over-all general grouping of cancer chemotherapy drugs is shown in Table I with the name alkylating agents, represented by "mustard" compounds, as the most developed and investigated of the cytotoxic drugs.

TABLE I
CANCER CHEMOTHERAPY DRUGS

Group	Examples
Alkylating Agents	"Mustard" Compounds
Anti-Metabolites	Methotrexate, Mercaptopurine, 5-Fluorouracil
Steroid Hormones	Androgens, Estrogens, Adrenal Cortical Hormones
Miscellaneous	Urethan, Fowler's Solution, Antibiotics

THE "MUSTARD" COMPOUND FAMILY:

The chemical effect on the cells' nucleic acids by "mustard" compounds is called alkylation and, hence, the term alkylating

TABLE II

ALKYLATING AGENTS
MOST EFFECTIVE AND CLINICALLY USEFUL

Drug	Dose	Route	Disease(s) of Choice
Nitrogen Mustard (HN_2)	.4 mg/kg	I.V. (I.Pl., I.Per.)	Hodgkins, Lymphosarcoma, Advanced Cancer
Myleran (Brand of Busulfan)	4-12 mg/day Maintenance 1-3 mg/day	Orally	Chronic Myeloid (granulocytic) Leukemia
Leukeran (Brand of Chlorambucil)	.1 - .2 mg/kils x 3-6 weeks	Orally	Chronic Lymphatic Leukemia Lymphoid Tissue Sarcoma
Triethylene Melamine (TEM)	2.5 mg. 1-3 x week	Orally	Chronic Lymphatic Leukemia Lymphoid Tissue Sarcomas
TEPA THIO-TEPA	20 mg-600 mg.	Dependent on Oral, I.V., intra-tumor route	Advanced Cancer Ovary, Breast, Lung
Cytoxan (Cyclophosphoramide)	100-200 mg/day to total of 2-8 gm. 50-200 Maintenance	Oral - I.V. (I.Pl., I.Per.)	Lymphoid Tissue Sarcomas, Advanced Cancers

agents for such chemicals. A list of the more popular and better known "mustard" compounds is shown in Table II. Note that some in this group have the practical advantage of oral route of administration.

Table II also shows the primary indication for most of the alkylating agents to be in the lymphoma or leukemia group. The excellent response from these drugs in ovarian cancer and oat cell lung cancer is sufficient reason to consider them for these and other solid tumors.

To illustrate the effectiveness of alkylating agents compared to x-ray therapy, Table III is presented. The added advantage over x-ray with general or systemic coverage by drugs is obvious when one considers the widespread distribution of some advanced cancers better reached through their blood supply.

TABLE III
COMPARATIVE EFFECTS OF RADIATION AND ALKYLATING AGENTS

	X-Rays	Alkylating Agents
Suppression of Mitosis	+	+
Chromosome Injury	+	+
Mutagenesis	+	+
Carcinogenesis	+	-?
Cataract Formation	+	-?
Site of Action (dependent on blood for transport)	-	+

Please consider at this point of the paper, the value of effective drugs against advanced cancer, especially with the large number of such cases.

Practitioners of medicine should study about cancer chemotherapy and make certain that someone in each community has experience and background in the use of the more practical, effective and accepted drugs. Now with even more direct therapy methods such as drug infusion wherein injection is made into the artery supplying the area involved by cancer, higher drug concentrations are possible in the cancer tissue with far less general body toxicity. This means even more available help to the advanced cancer patient. A community with physicians experienced in such anti-cancer therapy is at a distinct advantage.

ANTI-METABOLITES:

The anti-tumor chemicals which block fundamental cellular components are exciting additions to cancer therapy. Methotrexate is classified as a folic acid antagonist. Fluorouracil curtails pyrimidine incorporation into the cell by blocking its production from simpler compounds. A drug like 6-Mercaptopurine inhibits purine synthesis within the cell. There are many such drugs which have an anti-cancer effect because of their specific blocking or inhibiting action in fast growing cells such as in an active cancer growth.

Inhibition of uracil conversion to thymine is illustrated in a simple, schematic drawing

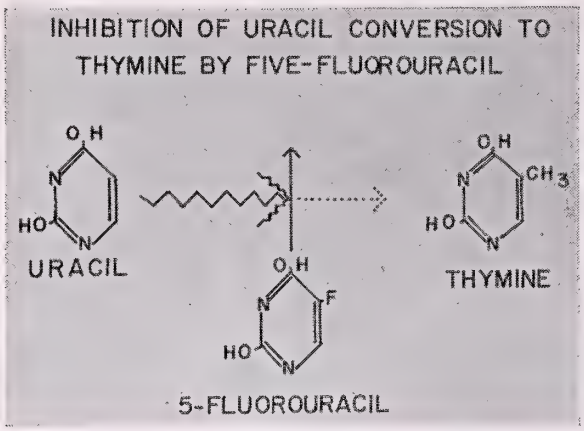


Figure 1

in Figure I. The fluorinated pyrimidine analogue, 5-FU, by various actions and chemical reactions inhibits certain steps in the formation of thymine. This leaves the cell incomplete and unable to function along this metabolic pathway.

This simple explanation cannot overlook the fact that there is more than one way for cells to utilize growth material. The alternate pathways account for some tumors which are unaffected by anti-metabolites or those arrested momentarily which then continue to progress after a time. Combination therapy, directed at more than one pathway, is now employed in some cases as a result of these observations.

Amethopterin, better known as methotrexate, is a very important anti-metabolite. The physician may recall its dramatic effect including cures in a high percentage of choriocarcinomas in females. This cancer is a rare post-partum neoplasm which is lethal if untreated. There have also been long term remissions of over eight years in a few acute leukemias treated with methotrexate. Recent benefits to disseminated solid tumors by way of intra-arterial therapy give even more promise for this chemical.

Five-Fluorouracil was developed and tried clinically for the first time at the University of Wisconsin. Its benefit to a small but significant percentage of advanced breast, disseminated (widespread) colon and rectum and other solid tumors is significant because many of these are resistant to all other forms of treatment. This is especially true of advanced cancer of the colon and rectum.

A drug like Fluorouracil is available to men in practice and the study of this drug is worth the time of those men responsible for advanced cancer cases. Familiarization with cancer chemotherapy at a University or other clinical center is invaluable to afford every community the benefit of such therapy by a trained physician.

CAUTIONS:

Cancer drugs are indicated for different patients and cancers at different times. Some contra-indications to treatment have been mentioned earlier, but added to those listed are the dangers of marked weight loss, bowel obstruction, the presence of jaundice, and, most important, previous general x-ray therapy, especially when given to the area of the pelvis. In the latter circumstance, marked bone marrow depression can result from the further "insult" given by the toxic drugs.

Toxic reactions are often slow to evolve and then may be irreversible. Anyone utilizing anti-cancer drugs, particularly the anti-metabolites must be wary of delayed warning signs. Also, because toxic reactions are often necessary to deliver toxic anti-cancer doses, patients are much sicker during treatment than before.

The ideal body weight is used to determine the dosage. Obese patients don't need their extra fat treated and underweight patients have the same vital organs as before their weight loss. Be wary of dehydration, however, as the reason for the weight loss.

Extra caution is needed with patients who have had prior drug therapy for their widespread cancer. The use of alkylating agents or as mentioned above, x-ray therapy, leaves the bone marrow depressed or depleted, less able to recover from further insult by anti-cancer agents which act on all fast growing cells.

The daily white blood count is a good indication of the toxic state of the patient and his reaction to the drugs. Experience at the University of Wisconsin Chemotherapy Service leads us to advise following the **trend** of the white count. Is it going down gradually? Did it drop rapidly after staying fairly steady? This latter is a bad sign. If it goes up as well as down during therapy, the chances are that the patient is safe. In this circumstance the drug probably isn't affecting the tumor, because toxic reactions seem to be more frequent in patients whose tumors respond.

Our cancer chemotherapists learned early to examine the lower lip of the patient receiving anti-metabolites. This location may give the earliest signs and symptoms of toxicity. Small ulcerations or sores of the mucous membrane frequently at the mucocutaneous junction were found to be warning enough to quit or decrease therapy. These were often the earliest signs. The patients are specifically questioned about sore, dry, or sensitive mouths.

Bowel symptoms are also very important to determine further dosages during therapy. Diarrhea is common and the frequency of bowel movements plus the discomfort encountered is indicative of the reaction in the colon mucosa. Loose stools, 3-4 movements per day, can be tolerated and controlled by paregoric and bismuth without letting up on therapy.

Isolation for low white blood counts is to protect the patient from the infectious organisms of the staff and visitors. White blood count below 2,000 and falling are reasons for alarm and isolation. Reaction during one course of drugs determines dosage at subsequent courses of treatment.

RESULTS:

Tables IV and V report the effectiveness of 5-Fluorouracil in advanced cases of breast cancer as well as advanced cases of colon and rectum cancer. Control (no chemotherapy) cases are consecutive tumor registry patients of the three years prior to the start of chemotherapy. Both the average or mean survival time in months and the 50% survival times are compared. Note in the case of advanced breast cancer that the survival is measured from the time dissemination was diagnosed. Because the onset of spread or advancement of internal cancer like gastro-intestinal cancer is difficult to time, the duration of life from original diagnosis to death for advanced colon and rectum cases was measured and compared with controls having no drug therapy.

Prolongation of life is an important contribution by the anti-cancer agents, but just as important is the fact that a small but significant percentage of certain tumors actually decrease in size under therapy. As a result, a decrease of pain and an increase of function is an important yard stick. Weight gain and a return to work are other important criteria of evaluating patients.

TABLE IV DISSEMINATED BREAST CANCER

EVALUATION OF 5-FLUOROURACIL (5-FU)

	Cases	Average Survival (Months) Dissemination to Death*	50% Survival After Dissemination
CONTROLS (All other forms of therapy)	127	13.3 Months	11 Months
5-FLUOROURACIL	125	24.2 Months	20 Months

*Measured from date of diagnosis of definite distant Metastases

TABLE V DISSEMINATED COLON AND RECTUM CANCER

5-FU - 5-FUDR-THERAPY

	Cases	Average Survival (Months) Diagnosis to Death	50% Survival
CONTROLS (No drug therapy)	150	15.7 Months	11 Months
5-FU AND 5-FUDR TREATED	250*	22.5 Months	17 Months

*12 still alive 1 September 1963

The reader is referred to the voluminous literature on the beneficial effects by the alkylating agents or "mustard" compound family on a variety of tumors for a short but significant period of time. This is especially true of some advanced cases as cancer of the lung with superior vena cava obstruction. This responds to intravenous therapy sometimes dramatically and not infrequently. Advanced carcinoma of the ovary with massive ascites may benefit from intraperitoneal injection.

SUMMARY:

Advanced cancer cases are common, will increase relatively with more and more cancers in an aging population, and represent a sizeable clinical problem. Cancer chemotherapy offers a means to help some of these cases. Physicians would benefit their patients by knowing more about the available anti-cancer drugs. Each community would be fortunate to have a doctor or doctors versed in anti-cancer therapy. Such skill in the use of anti-tumor agents does not differ markedly from the training and experience necessary to use insulin, special adrenal-cortical compounds, anti-hypertensive agents, and heart medications.

This paper reviews a few common available agents and urges familiarization with them. It further points out some cautions and procedures to enhance their use. Above all, it encourages more study and wider utilization of these important additions to cancer therapy.



Some Observations on Bacteremia Due to Gram-Negative Bacilli*

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* Read at the meeting of the Black Hills Medical Society, Rapid City, South Dakota, September 6 and 7, 1963.

The incidence of gram-negative bacteremia appears to be increasing. McCabe and Jackson[1] noted a fivefold increase in incidence from 1951 to 1958 at the University of Illinois Research and Education Hospitals. Finland and colleagues[2] described the rate at Boston City Hospital, as increasing more than five times from 1935 to 1957. A study at the Mayo Clinic of the 15-year period 1940 through 1954 covered 137 cases[3], while that of the 5-year period 1955 through 1959 revealed 113 cases[4].

Causative Organisms

In our experience, Escherichia coli has caused about one-half of these infections. E. coli and Aerobacter aerogenes, known together as coli-aerogenes organisms, have been causative in two-thirds of our cases. In recent years, Pseudomonas has displaced Proteus as the third most commonly encountered pathogen. Pseudomonades cause bacteremia almost twice as often as protei, and protei about twice as often as bacteroides. Less common pathogens include Paracolobactrum, Achromobacter, and Alcaligenes.

Although normal inhabitants of the bowel, Pseudomonas organisms are widely distributed and can be found in water, on skin surfaces, and in the air, giving them access to wounds, drugs, and medical instruments. Ordinarily, Pseudomonas organisms have little talent for sustained invasion, but when host defenses are incompletely developed, as in infants, or when defenses are weakened, as in debilitated adults, these organisms can cause serious infections[5]. The frequency of

Pseudomonas infections may partly reflect the resistance of the organism to most antimicrobial agents, allowing their emergence as predominating bacilli after other bacteria are eradicated. Also, the increase in age of the population, the increased ability to prolong life in patients with weakened defenses, and the use of predisposing diagnostic and therapeutic procedures may be contributing factors to the increased incidence of Pseudomonas bacteremia.

Bacteroides are anaerobic bacilli that normally inhabit the pharynx, bowel, and female genital tract. In the detection of Bacteroides bacteremia, all blood that is drawn for culture should be inoculated into anaerobic media, for example into deep tubes of dextrose-brain broth. In one-third of our cases of Bacteroides bacteremia[6], the bacilli were identified within 48 hours after inoculation of cultures, but, in two-thirds, incubation times ranged from 5 to 20 days. In one-fifth of the cases of Bacteroides bacteremia, additional organisms, usually streptococci, were isolated simultaneously.

Age and Sex of Patients

Among the patients with gram-negative bacteremia who were observed by our group at the Mayo Clinic, men have outnumbered women by 2 to 1. More than 75 per cent of these men were 50 years old or more; 40 per cent of the women were less than 50. This disparity in incidence between the sexes and between ages may reflect the frequency of genitourinary infections and urologic manipulations in the respective groups. Only about 10 per cent of the patients are less than 30 years of age; susceptible persons in this age group include women in the postpartum state or those undergoing septic abortion and children who have malignant and hematologic diseases.

Portal of Entry

The portal of entry was the urinary tract in about 50 per cent of our cases, the biliary tract in 10 per cent, the remainder of the gastrointestinal tract in 15 per cent, the female genital tract in 5 per cent, and other sites, such as skin, postoperative wounds, and respiratory tract in another 5 per cent. A portal was not evident in 15 per cent.

The respiratory tract, although not a common portal for gram-negative bacteremia in general, may give entry to Bacteroides infection. Pseudomonas bacteremia also has had a respiratory portal of entry in patients who have inhaled contaminated aerosols, but the more common portals are the skin in victims of burns, the veins in patients receiving intravenous therapy, and the urinary tract. These portals for Pseudomonas bacteremia share the possibility of exposure to contaminated instruments and medications.

In the 15 per cent of our cases in which a portal was not detected, incidence of hematologic disease was high. Hematologic disease, in contradistinction to other underlying conditions predisposing to gram-negative bacteremia, is usually characterized by an inapparent portal for supervening bacteremia[7].

Underlying Diseases

Infectious — Among nidi of infection from which bacteremia may originate, probably pyelonephritis, cholangitis, and conditions associated with varying degrees of peritonitis are most common. Those associated with peritonitis include visceral perforation, pelvic cellulitis, visceral abscesses, appendicitis, and diverticulitis of the colon. Cutaneous, respiratory, and venous nidi of infection are less common.

Noninfectious — Advanced arteriosclerosis, which occurred in about 20 per cent of our patients, may predispose to bacteremia because victims of strokes and those undergoing surgical procedures such as those for abdominal aneurysms frequently require urinary catheters. Infected peripheral gangrene is another underlying disease.

Neoplastic disease was present in about 10 per cent of our patients[7], and the precipitation of bacteremia frequently was iatrogenic. In more than three-fourths of these cases, bacteremia followed urologic procedures or gastrointestinal operations. Bacteremia also may complicate chemotherapy and irradiation.

Hematologic disorders were present in 15 per cent of our cases[7]. Diminished resistance to infection in hematologic diseases may reflect (1) defects in gamma globulin as in chronic lymphatic leukemia, lymphoma, or multiple myeloma, (2) inadequate neutrophilic response as in acute leukemia, chronic granulocytic leukemia, agranulocytosis, or

aplasia, and (3) iatrogenic factors that include therapy with adrenal steroids, antimetabolites, and radiation. Bacteremia associated with hematologic diseases is due rather often to Pseudomonas and to bacteria, such as Alcaligenes organisms, that are infrequently causative otherwise. In hematologic disorders, the incidence of polymicrobic infection is higher than in patients lacking such diseases.

Approximately 10 per cent of our patients have had diabetes mellitus.[8] The portal for bacteremia in diabetics is almost always urinary. Diabetic complications such as coma, cesarean section, and amputation frequently require urinary catheterization, which may precipitate bacteremia.

Five per cent of our patients have had severe hepatic disease.[9] Persistent bacteremia in such patients may reflect the reseeding of the blood with bacilli that were initially phagocytized in Kupffer's cells but were not killed. In this situation the number of Kupffer's cells and their phagocytosis of bacteria are normal, but the cells appear unable to destroy the ensnared organisms. The spontaneous origin of the infection from intestinal bacteria, via either the portal vein or collateral circulation, is unlikely since bacteremia in a patient with portacaval anastomosis is rare. Perhaps nidi of infection in the biliary or urinary tract, especially if disturbed by operation or manipulation, are the source of bacteremia in most cases.

Therapeutic Precipitants

In 50 per cent of our cases bacteremia followed surgical procedures and instrumentation; two-thirds of these procedures were genitourinary and one-third were gastrointestinal. The most common precipitating procedure was transurethral prostatic resection, and cystoscopy was the second most frequent. Among gastrointestinal procedures, the three most common operative sites (listed in decreasing frequencies) were the biliary tract, the intestines, and the stomach. Bacteremia may occur when Pseudomonas organisms contaminate a heart-lung machine, hemodialysis apparatus, and the like. In our experience, bacteremia has not occurred after infusion or transfusion.

Disturbance of the normal bacterial flora on administration of antibacterial agents is well known. In 15 per cent of our patients, penicillin and allied drugs seemingly induced depression of gram-positive elements of the flora, with resulting overgrowth and bloodstream invasion by gram-negative elements. In two-thirds of our cases in which bacteremia was related to such antecedent therapy, the infection was due to either Pseudomonas organisms or A. aerogenes.

Adrenal gluco-corticoids had been employed prior to onset of bacteremia in 15 per cent of our cases. In most cases they were given to control hematologic diseases. Contrary to some experimental data, these records indicate that prior use of these drugs failed to protect this group against bacteremic shock or fatal outcome. Other observers[1] have noted that prior administration of adrenal gluco-corticoids also increased the frequency of bacteremic shock and the mortality rate.

Antimetabolites were being administered to 5 per cent of our patients when bacteremia occurred. These patients had either hematologic or neoplastic disease.

Radiation therapy had been given to less than 5 per cent of our patients in whom bacteremia subsequently developed. These patients also had either hematologic or malignant disease.

Clinical Manifestations

Ninety-eight per cent of our patients had temperatures that ranged from 101° to 106° F., usually of a spiking nature; such fevers may be intermittent, remittent, continuous, or variable.

In the febrile patients, the onset of bacteremia was manifested by fever and chills in 60 per cent, by spiking fever without chills in approximately 25 per cent and by a gradual onset of malaise and fever in 15 per cent. Twenty per cent of these febrile patients manifested their infection by sudden circulatory collapse, that is, bacteremic shock.[10]

All patients had some degree of prostration, and headache was common, but frank delirium and stupor were rare. Anorexia was usual, but vomiting, abdominal distention, and diarrhea often manifested an underlying disease. Diarrhea can be a manifestation of bacteremia in the absence of underlying intestinal disease, and, classically, this suggests that Bacteroides or Salmonella organisms are etiologic factors.

Leukocytosis was usually present in our cases, but a normal number of leukocytes was not rare. In some cases of Pseudomonas bacteremia, marked leukopenia occurred. Mild anemia was common, but albuminuria, hematuria, and pyuria were usually dependent on the underlying disease. There was azotemia, hyperkalemia, and decreases in serum sodium and chloride and carbon dioxide-combining power, especially in patients with hypotensive episodes.

Notable clinical features may indicate that the pathogen is Pseudomonas.[5] Skin lesions, known as ecthyma gangraenosum, are most often seen in the anogenital region and axillae. They begin as macules or vesicles, become pustular, and may slough to form necrotic ulcers; 10 per cent of our patients had such ecthymatous lesions. Biopsy of the lesions may reveal bacilli in the walls of blood vessels, and culture may reveal Pseudomonas organisms. Leukopenia occurred in 5 per cent of our cases and, at times, was associated with thrombocytopenia. Patients with underlying hematologic disease are predisposed to Pseudomonas bacteremia, and, conversely, those without underlying hematologic disease who have Pseudomonas bacteremia have secondary hematologic findings that may be a manifestation of the infection. Difficulties in distinguishing initially between these two possibilities in certain cases are evident. Petechiae, jaundice, and rarely bluish green discoloration of the nail beds also may characterize Pseudomonas bacteremia.

Diarrhea beginning prior to antibiotic therapy and terminating with recovery occurred in one-third of our patients with Bacteroides bacteremia.[6] Diarrhea, although suggestive of being caused by Bacteroides or Salmonella organisms, also may be noted in bacteremia due to other enteric bacilli. In one-third of our patients with Bacteroides bacteremia, foul-smelling exudates were noted; but the stale, putrid, butterlike or cheesy odor that is said to be characteristic of Bacteroides was present in only two. Delayed response in Bacteroides bacteremia after treatment with an appropriate regimen is suggestive of a locus of suppuration, which may require surgical drainage. However, therapeutic control of Bacteroides bacteremia, even in the absence of localized suppuration, may require more time than for other gram-negative bacteremias.

When bacteremia complicates septic abortion, clostridial infection is considered but gram-negative bacilli commonly are responsible; smears of the cervix may aid in this distinction prior to reports of blood cultures.

Complications

Bacteremic shock[10] developed in about one in five patients, but as the incidence of bacteremia has increased, so has the comparative incidence of shock, which currently is about one in three. In these cases, the usual manifestations of shock may be obscured by warm skin, bounding pulse, and fever; only the detection of hypotension may indicate shock. The mortality rate for patients with shock was 37 per cent; this is 10 per cent higher than for those without shock.

The Bacteroides organism is the commonest but not the sole cause of metastatic infections; such infections developed in about 10 per cent of all our cases. These included abscesses of the kidney, meningitis, and suppurative arthritis.

In 5 per cent of our cases, superinfections occurred; these included enterocolitis, bacteremia, pneumonia, pyelonephritis, and parotitis. The pathogen usually was Staphylococcus aureus, but Streptococcus faecalis has been causative in two cases of bacteremia. Approximately one-fourth of these superinfections were fatal, but malignant lesions, leukemia, and similar diseases predisposed these patients to death.

Therapeutic Considerations

In vitro inhibition tests are mainly of retrospective value in the management of bacteremia because therapy is begun empirically before such data are available. To postpone therapy until results of such tests were reported would mean a delay of 24 to 48 hours and an increased mortality rate.

Awareness of the primary nidus of infection, underlying disease, or predisposing therapy may suggest that enteric bacilli are responsible for bacteremia and allows initiation of a more reasonable regimen until microbiologic data are forthcoming.

In the method of management employed in our cases, empiric antibiotic therapy is initiated either on a report of positive blood

cultures or, whenever bacteremia seems likely, after blood has been drawn for culture. Combined therapy with tetracycline and streptomycin, or alternatively, chloramphenicol and kanamycin are given most often under these circumstances.

The regimen is changed if on subsequent receipt of inhibition tests the bacilli resist the drugs being given and if the patient is not progressing well. In cases in which progress has not been satisfactory after 12 to 24 hours and results of inhibition tests remain unreported, the regimen may be changed empirically. In the latter situation, in addition to the two regimens mentioned, either polymyxin B or colistin should be considered.

Tetracycline-streptomycin or chloramphenicol-kanamycin therapies were used in almost two-thirds of our patients with bacteremia due to coli-aerogenes and Proteus organisms and the mortality rate was 20 per cent.

In most patients with Pseudomonas bacteremia and underlying conditions such as malignant, hematologic, or renal disease, there is no drug that will prevent death. In some patients with Pseudomonas bacteremia unassociated with such intrinsically lethal diseases, tetracycline-streptomycin therapy that was started empirically after blood was drawn for culture was successful, but most patients received polymyxin B. Only a minority of our patients received colistin. The mortality rate in patients who did not have diseases of lethal potentiality was 25 per cent, and, when those with or without such associated disease are included, the mortality rate from Pseudomonas bacteremia was 55 per cent. Ten years ago the over-all mortality rate was 45 per cent, but, during the last 5 years, it has risen to 65 per cent. The increased rate may reflect the large number who have underlying lethal diseases but who are now being kept alive longer.

The over-all mortality rate in cases of Bacteroides bacteremia was 25 per cent. Tetracycline alone suffices in patients with Bacteroides bacteremia, and conjoint streptomycin is unnecessary. Tetracycline or chloramphenicol alone probably also suffices for Salmonella bacteremia.

In short, in our cases combined therapy has been used most often in bacteremia due to coli-aerogenes and Proteus organisms. If such therapy has been begun empirically, one can switch to polymyxin B or colistin when cultures show Pseudomonas organisms or one can discontinue streptomycin or kanamycin when Bacteroides or Salmonella organisms are present. In bacteremia due to Alcaligenes, Achromobacter, and the like, there is insufficient data to provide precise therapeutic directions, but usually combined therapy is continued once it has been begun empirically.

It is impossible, of course, to restrict an analysis of results to drug versus microbe only. The outstanding obstacle is the underlying condition. The importance of these conditions is apparent since the mortality rate among patients who have an intrinsically lethal associated disease is approximately 75 per cent, while that among patients without such disease varied from 10 to 25 per cent.

Antibiotic Regimens — On report of positive blood cultures or after blood is drawn for culture from patients having clinical bacteremia, a dose of 500 mg. of a tetracycline is administered orally every 6 hours. Instead, chloramphenicol may be given in equal amounts every 4 hours when staphylococci are also present, as in a diabetic patient with furunculosis, or when superinfection with staphylococci seems likely. Chloramphenicol may be substituted when there is inadequate response to a 12 to 24-hour trial of tetracycline or when response to tetracycline has been poor and in vitro data later indicate more susceptibility to chloramphenicol.

If circulatory collapse jeopardizes intestinal absorption, tetracycline should be given intravenously in amounts of 500 mg. every 8 to 12 hours. Alternatively, chloramphenicol can be given intravenously in similar amounts every 6 to 8 hours. As much as 1 gm. of streptomycin—or of kanamycin when indicated by associated staphylococcal infection or refractoriness—is given intramuscularly every 12 hours. When polymyxin B is used, 50 mg. is given intramuscularly every 6 hours. When renal function is impaired, the dose of streptomycin, kanamycin, or polymyxin B is reduced to avoid accumulation in the blood and enhanced toxicity.

Combined Antibiotic Therapy — When gram-negative bacteremia is likely, the empiric use of streptomycin-tetracycline or

chloramphenicol-kanamycin therapies, after blood is drawn for cultures, is favored for several reasons. They give broader antibiotic coverage, which is desirable since results of cultures and inhibition tests will not be known for 1 or more days, and they are effective against E. coli, the most commonly responsible pathogen. The bactericidal action of streptomycin or kanamycin may enhance the bacteriostatic effect of tetracycline or chloramphenicol. As empiric therapy, tetracycline is preferred to chloramphenicol because of the latter's propensity to depress the marrow, and streptomycin is preferred to kanamycin since the latter is more likely to cause deafness.

There are disadvantages to the empiric use of tetracycline-streptomycin, but these also exist with alternative regimens. The disadvantages include the dual depressive effect on the gram-negative elements of the flora, making superinfection more likely, but periodic study of the sputum and stools during therapy may reveal floral changes in time to avert superinfection. Streptomycin, kanamycin, and polymyxin B are nephrotoxic; streptomycin and kanamycin also are ototoxic; and polymyxin B may cause cerebellar ataxia. Moreover, combined therapy entails the introduction, or an increase in number, of parenteral injections and is more expensive.

Rationale of Streptomycin Therapy — In the treatment of these bacteremias, there is less danger of toxicity from streptomycin in maximal amounts of 2 gm. daily if the patient has normal kidneys, since treatment does not exceed 2 weeks. If renal function is decreased, the dose of streptomycin should be reduced or eliminated. It is uncertain whether prior use of streptomycin or other ototoxic drugs, such as kanamycin and vancomycin, increases likelihood of an otic reaction on further use of streptomycin, but this possibility should be considered when the drug is prescribed. In patients who have suffered streptomycin-induced ototoxicity previously, further use of streptomycin should be avoided if possible. In recent years my colleagues and I, when in vitro susceptibilities allow, often have discontinued the use of streptomycin when the patient is progressing favorably and is afebrile and the initial culture of blood drawn after 48 hours of therapy is reported as negative but we have continued use of tetracycline until two additional negative blood cultures are reported and the patient is afebrile for at least 72 hours. In cases in which blood cultures grow Bacteroides or Salmonella, use of streptomycin is discontinued immediately. Thus, the incidence of ototoxicity is minimized if the drug is administered for a minimal period and if a dose in excess of the patient's renal tolerance is avoided. Fear of ototoxicity should not completely interdict use of streptomycin, but the drug should not be given indiscriminately. Perhaps greater caution should be exercised in the use of kanamycin since it is more likely to cause deafness and, like dihydrostreptomycin, has caused deafness of delayed onset. Streptomycin is more likely to cause vestibular damage, which can be compensated considerably by visual mechanisms.

Employment of a Single Antibiotic — Exemptions from the empiric rule of combined antibiotic therapy depend on the following variables: (1) identification of the pathogen, (2) refractoriness to the empiric regimen, and (3) in vitro data indicating a single agent to be effective.

Occasionally, although empiric therapy forestalls death, the response is incomplete; then microbiologic data may indicate use of a single agent. Single agents that are used include: (1) polymyxin B or colistin in Pseudomonas infection, (2) penicillin or novobiocin in Proteus mirabilis bacteremia, (3) tetracycline or chloramphenicol in salmonellosis, and (4) tetracycline in Bacteroides infections.

A single agent was used in about a third of our cases. The best results are obtained when the bacilli are sensitive in vitro to the drug employed, but the difficulty lies in the unavailability of such data when the clinical status of the patient requires initiation of therapy.

Our experience with the newer agent, colistin, in the management of Pseudomonas and other gram-negative bacteremias is insufficient to warrant a final statement on its application. While colistin is not as bactericidal by weight on in vitro testing as polymyxin B, it may be less toxic but this is disputable.

Drugs Having Potential Use — Ampicillin, a semisynthetic penicillin given orally, is being investigated in E. coli and Proteus infections.

The drug is ineffective against Pseudomonas and Klebsiella organisms.

Cephalothin, a cephalosporin C derivative given intramuscularly, like ampicillin, is effective against both gram-negative bacteria and gram-positive cocci but has the additional advantage of being active against penicillin G-resistant staphylococci. Its efficacy against certain gram-negative bacteria could enhance the usefulness of cephalothin in mixed infections.

When given intravenously in amounts of 0.5 to 1 gm. several times daily, nalidixic acid (NegGram), a naphthyridine derivative, has been suggested as being useful in Proteus bacteremia.

Gentamicin (Garymycin) is given intramuscularly for systemic effect; it resembles neomycin in its spectrum and also is nephrotoxic and ototoxic. Against staphylococci, it is cross-resistant with neomycin and partially so with streptomycin. Whether gentamicin has application in gram-negative bacteremia awaits further investigation. It may be more effective against Pseudomonas organisms than either neomycin or kanamycin.

Therapy of Polymicrobic Bacteremia — Polymicrobic infections are of increased incidence in cases of Bacteroides bacteremia and hematologic diseases. Several drugs may be given simultaneously, for example, tetracycline against Bacteroides and penicillin and streptomycin against enterococci. However, the number of drugs tried should be minimized because their indiscriminate use may increase bacterial resistance, since resistance appears to manifest the total amount of a drug employed in a given area. Perhaps ampicillin and cephalothin will prove useful in polymicrobic infections.

Adjunctive Therapy — The management of fluid and electrolyte deficits is an important supportive measure. However, overadministration of fluids, especially of saline, during oliguria can embarrass cardiac function and induce pulmonary edema.

The gallbladder, postoperative wounds, obstructive uropathy, and other areas of suppuration may constitute nidi of infection from which the blood is re-seeded with organisms. Control of the bacteremia should be attempted before subjecting the patient to added stress, but sometimes bacteremia persists until the nidus is attacked surgically. Metastatic suppuration that requires surgical attention most often complicates Bacteroides bacteremia.

Considerable controversy exists regarding antishock regimens, but the measures that are frequently employed will be mentioned at least for the sake of completeness.

Vasopressors have been used not only to prevent so-called irreversible shock but also to forestall renal ischemia and renal shutdown. A current question is whether vasodilators rather than vasopressors should be used. The vasopressors that appear to have been used most commonly in the recent past are metaraminol and levarterenol. Angiotensin appears to have potential in this regard.

By the use of a Y-tube apparatus to deliver vasopressor drugs given intravenously, administration of the vasopressor can be discontinued periodically so that only the minimum is consumed, and yet the solution remains immediately available if hypotension recurs. Similar titration is not possible with intramuscular administration of vasopressors. When vasopressors are given, it is unnecessary to raise the systolic blood pressure to more than 100 mm. of mercury in a previously normotensive patient.

Metaraminol (Aramine Bitartrate) has been given intramuscularly, subcutaneously, and intravenously. Unlike levarterenol, it promotes renal blood flow and is less likely to induce dependence. Levarterenol, however, will maintain the blood pressure of patients refractory to metaraminol. The recommended intramuscular dose is 2 to 10 mg., and the intravenous dose is 15 to 100 mg. given in 500 to 1000 ml. of fluid. Metaraminol should not be injected into regions of arterial insufficiency and should be used cautiously in persons with diabetes, previous hypertension, or cardiac or thyroid disease. The drug is not used after cyclopropane anesthesia for fear of inducing ventricular fibrillation. Experimental data suggest that release of levarterenol from sympathetic nerves plays a major role in the action of metaraminol. Therefore, when refractoriness to metaraminol is suspected, levarterenol can be substituted. Reserpine may deplete stores of levarterenol with consequent reduced response to metaraminol.

Levarterenol is given intravenously in increments of 4 ml. of a 0.2 per cent solution; the drug is added to a 1000-ml. solution of 5 per

cent dextrose in distilled water, and administered at a rate sufficient to maintain the desired blood pressure. Fluids containing dextrose protect against loss of the potency of this drug due to oxidation; levarterenol should not be given in saline solution alone. More than a dozen ampules per day have been given to patients who remain hypotensive. An antecubital vein is preferred for the infusion of levarterenol; use of veins of the leg in patients with arterial disease and use of veins of the hand in all is avoided. The site of infusion and the course of the vein infused are inspected frequently for hard, cold, blanched areas of skin. If ischemia is noted, necrosis may be minimized by prompt discontinuation of the infusion and by infiltration of the area with adrenergic blocking agents such as phentolamine or piperoxan. Protection against necrosis of the skin after extravasation of levarterenol may follow addition of 5 to 10 mg. of phentolamine or of 10 to 20 mg. of heparin to each liter of solution containing the agent. Levarterenol also is used cautiously in patients to whom cyclopropane anesthesia or other cardiac-sensitizing agents recently have been administered.

Angiotensin has given encouraging preliminary results in maintaining the patient's blood pressure during an episode of bacteremic shock. It may have stronger action on the visceral blood vessels in contradistinction to levarterenol, which chiefly affects blood vessels of the muscles. Unlike levarterenol, angiotensin is said not to induce dependence or tissue necrosis. Although administered intramuscularly and subcutaneously, angiotensin usually is given intravenously. A vial contains 2.5 mg. of angiotensin and one to four vials are added to 500 to 1000 ml. of fluid; up to 10 vials have been given in a 24-hour period. Certain conditions that have not responded to levarterenol have responded to angiotensin, and since the converse also occurs, a trial of both drugs is required in some patients.

Sympathetic or adrenergic blocking agents are being investigated in place of vasopressors for patients in bacteremic shock. Because pallor, sweating, and tachycardia reflect vasoconstriction, it has been theorized that dilatation, rather than further constriction of blood vessels by vasopressors, might be more efficient in relieving visceral pooling. Phenoxybenzamine hydrochloride (Dibenzyline) administered intravenously in amounts of 1 mg. per kilogram of body weight has been employed in these investigations.

Oxygen therapy attempts to counteract tissue anoxia due to reduced arterial blood flow, but the logic of its use has been disputed.

Mechanical measures include elevating the foot of the patient's bed and applying an abdominal binder and leg bandages. These are designed to increase cardiac output and venous return to the heart. However, recent data indicate that such mechanical measures may be of little benefit.

If hypothermia is not used, the patient should be kept comfortably warm, but overheating, which may dilate superficial vessels and further increase the capacity of the vascular bed, is avoided. The exact application of hypothermia in bacteremic shock remains unclear.

Usually the first sign of recovery from renal shutdown is reappearance of excretory function within 10 to 12 days. Excretory function reappears before regulatory function, but death from progressive azotemia and acidosis remains a possibility. Hemodialysis has contributed to maintaining life and reducing morbidity during the oliguric phase of renal shutdown, but should not be reserved as a last desperate measure since the failure to prevent death may reflect its belated use.

Morphine, Demerol, barbiturates, and other depressants are best avoided.

Use of adrenal cortical steroids has been advocated despite the fact that patients with bacteremia, even when moribund, show no abnormality of the secretory function of the adrenal gland. In a comparison of reported series in which steroids were and were not used, the mortality rate among bacteremic patients who received steroids seemed to be higher. McCabe and Jackson[1] concluded that the effects of steroids in their patients were adverse. At our clinic we have limited administration of steroids to those patients who were receiving them prior to the occurrence of infection. Also, we have not used blood, plasma, or dextran in the definitive management of this complication, because in human shock there appears to be no decrease in blood vol-

ume but rather stagnation and redistribution of it.

Prognosis

The prognosis is determined considerably by the nature and severity of the initial lesion, the presence of underlying disease, prior therapy, the duration of infection before institution of appropriate management, and complications such as bacteremic shock, metastatic infection, and superinfection.

Patients who recovered had the benefit of early diagnosis and treatment. Since urethral manipulation including catheterization is the commonest precipitant of bacteremia, likely victims must be recognized and managed accordingly to assure the best prognosis.

The majority of deaths occurred in patients with serious associated conditions, and in at least 50 per cent of these fatalities the associated condition was responsible.

Summary and Conclusions

An expanding group of individuals susceptible to bacteremia has evolved with the increase in age of the general population, increased ability to prolong life in patients who have limited capacity to resist infection, and augmented use of medical regimens which alter, or bypass, host defense mechanisms. Bacteremia has occurred in the absence of underlying disease, therapy capable of altering host resistance to infection, or precipitating operation or instrumentation in only about 10 per cent of the cases at the Mayo Clinic.

In the management of any patient who has possible predisposing disease or treatment there is a possibility of the presence or supervention of gram-negative bacteremia; this is especially true for a patient who has disease of, or recent operation on, the urinary or gastrointestinal tract and who has a fever.

Failure to recognize bacteremic shock in its early stages and to initiate prompt, appropriate treatment increases the mortality rate 10 per cent over that of gram-negative bacteremia without shock.

Empiric antibiotic therapy is begun after the result of cultures is known, or in seriously ill patients, after blood is drawn for cultures. When the patient's condition and microbiologic data later indicate that empiric therapy is unsatisfactory, therapy is modified accordingly.

Use of specific antibiotics in the initial management of gram-negative bacteremia is theoretically possible but is impractical often because of the lack of cultural proof of the pathogen and, almost always, of its in vitro susceptibilities. In experience at our clinic, the usual circumstances that surround such infections including delay in the reporting of in vitro bacterial susceptibilities allow the use of a single drug in little more than one-third of the cases.

Almost 75 per cent of the patients studied by our group have recovered. The mortality rate would be even less if the underlying disease could be corrected, the presence of which made recovery impossible in at least half the fatal cases.

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MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE WITH COMMISSION CHAIRMEN

July 11, 1964

Westward Ho Country Club Sioux Falls, S. D.

The meeting was called to order at 1:45 p.m. by James P. Steele, M.D., president of the South Dakota State Medical Association. Present for roll call were the following physicians: James P. Steele, Paul Hohm, P. P. Brogdon, A. P. Reding, H. E. Lowe, R. R. Giebink, J. B. Gregg, George Knabe, C. L. Vogele, R. H. Quinn, M. R. Cosand, and D. L. Scheller.

A discussion was held on the ways to implement the new commission structure of the State Medical Association. It was determined that it would be desirable if each Commission could meet in person at least once each year. Various sub-committees can be appointed to study problems referred to the commissions and when their work has been completed the sub-committee can be dismissed.

Dr. Steele requested that the Commission on Internal Affairs study the schedule of meetings for the annual meeting with the hope of scheduling reference committee meetings at a more favorable time.

A discussion was held on the Medical School Endowment Association. Dr. Brogdon moved that the functions of the Medical School Endowment Association Board of Directors be transferred to the Commission on Medical Service; that the responsibility for financial matters be handled by the Executive Committee until notification is received that a sub-committee has been appointed by the commission chairman and is ready to take over the duties of the Board of Directors. The motion was seconded by Dr. Lowe and carried.

The resolution introduced at the annual meeting concerning an immunization schedule was referred to the Commission on Medical Service. Dr. Brogdon moved that the Commission study the problem and report back to the Council at the September meeting, if possible. The motion was seconded by Dr. Hohm and carried.

Dr. Steele requested that representatives who attend national meetings submit reports to the Commission chairmen and the executive office on the proceedings.

A discussion on the dates for the 1965 annual meeting in Watertown was held. Dr. Hohm moved that the Executive Committee set the dates of May 15, 16, 17, and 18, 1965, for the annual meeting of the South Dakota State Medical Association. The motion was seconded by Dr. Reding and carried.

The report of the Tuberculosis Committee was referred to the Commission on Scientific Medicine for study and implementation. The Commission on Communications was to study a supply of pamphlets to determine which ones would be advisable for the State Association to publish and distribute in the public interest. A report will be referred to the Council.

The Commission on Governmental Relations and Legislation was discussed. The study of South Dakota laws concerning suicides was referred to the Commission. Information on this subject which has been compiled by the old Mental Health Committee will be forwarded to the Commission chairman.

A discussion on the Workman's Compensation question was held. It was suggested that the Commission contact labor and the Bar Association representatives for assistance in this field.

The work of the Commission on Liaison with Allied Organizations was discussed. The chairman of this Commission will work with the executive office and the Bar Association in setting up the Medical Legal Conference to be held in Pierre, September 12. Possible subjects for discussion are the Coroner's Law problem and the Workman's Compensation problems.

The Chairman of the Commission on Internal Affairs was asked to name a permanent Budget and Audit Sub-committee. Dr. Brogdon moved that the sub-committee be made up of the Commission Chairman, the Secretary-Treasurer of the Association, and one commission member. The motion was seconded by Dr. Hohm and carried. Dr. Scheller named Dr. A. K. Myrabo as the Commission member to serve on the sub-committee for the coming year. A discussion was held on the administration of the Benevolent Fund. Dr. Brogdon moved that the activities of the Benevolent Fund be transferred to the Commission on Internal Affairs and that the Commission be instructed to co-ordinate their activities with the Woman's Auxiliary. The motion was seconded by Dr. Reding and carried.

Dr. Steele asked the Commission on Internal Affairs to make a study of the Constitution and By-laws of the State Association with the purpose of making necessary revisions to clearly state the duties and responsibilities of the Executive Committee, the Council, the Commissions, and Reference Committees.

It was suggested that the Grab Bag be used to explain Association functions and the services received by the physicians who belong to the Association, and also to indicate to the other doctors the amount of travel, etc., being donated by active members. The Commission on Internal Affairs was asked to compile a list of ways the Association could add to the income to help cover items of this nature.

A discussion of the affairs of the Journal was held. Dr. Steele asked the Commission on Communications to study this problem and make recommendations on how to improve the financial picture. All physicians present were asked to submit any suggestions they might have to solve this problem. Dr. Steele invited all the Commission chairmen to attend the September 13 Council meeting to be held in Pierre.

The meeting adjourned at 4:45 p.m.

14 Man Iowa clinic group needs third Generalist in busy family practice section. This situation would be especially suited to a Generalist who has become tired of solo practice and who would like the benefits of a group association. Partnership in two years. Write Box A2, South Dakota Journal of Medicine, 711 N. Lake, Sioux Falls, S. D.

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FEATHERBEDDING IN SURGERY????

Recently the subject of featherbedding on railroads, or the mandatory employment of workers regardless of the need for their services, has been a hotly disputed issue in this country. This situation developed through continued use of long outdated employment practices. It has been reflected as higher operating expenses for the railroads and ultimately greater costs to the consumers. Now it seems that mandatory featherbedding may be an issue in the operating rooms of many hospitals in the United States.

In the recent bulletin of the Joint Commission On Accreditation of Hospitals (J.C.) it is stated, "In any procedure with unusual hazard to life there must be a qualified physician present and scrubbed as first assistant." Later in the same bulletin is this statement, "The words 'unusual hazard to life' defy accurate definition." Thereafter the Commission uses a lengthy paragraph to toss the matter right back into the laps of the Surgical Evaluation Committee or the Tissue Committee of the individual hospital staffs without any concrete suggestions as to how the matter should be settled.

The able surgeon does not want and will not allow any foreseeable factor to adversely influence the outcome of a surgical operation. He will go to the utmost extremes to assure the safety factor and ultimately the success of each procedure. Conversely, legislation of surgery has not in the past and will not in the future drive out the incompetent, merely deter him for a short interval. If one hospital refuses him staff privileges, there are many others which will grant them.

Often a surgical procedure which requires the participation of assistants when performed by one physician, can be and are being done most competently by another surgeon alone. Forcing this latter surgeon to use an assistant, despite the fact that he has been and is doing most excellent work alone, will not improve the surgery, is a grave injustice to the surgeon and an added expense to the patient. Opinion differs considerably among physicians as to which operations harbor "unusual hazard to life." Some of the most potentially dangerous of operations, (for example, adenotonsillectomy) are done by inexperienced surgeons. Despite this, an assistant is, to say the least, superfluous, redundant and in the way at a tonsil operation. In a given instance the choice as to whether assistants are required should be influenced considerably by the experience, choice, and opinion of the individual surgeon as well as the surgical staff of the hospital, not be the result of a mandatory directive from an organization located in a distant city.

To support the philosophy of multiple operating room assistants, the specter is often raised by the Joint Commission regarding the possibility that a surgeon may drop dead or suffer some other catastrophe in the operating room. This is largely a figment of someone's fertile imagination. Fortunately, with the multitude of well-trained surgeons in this country

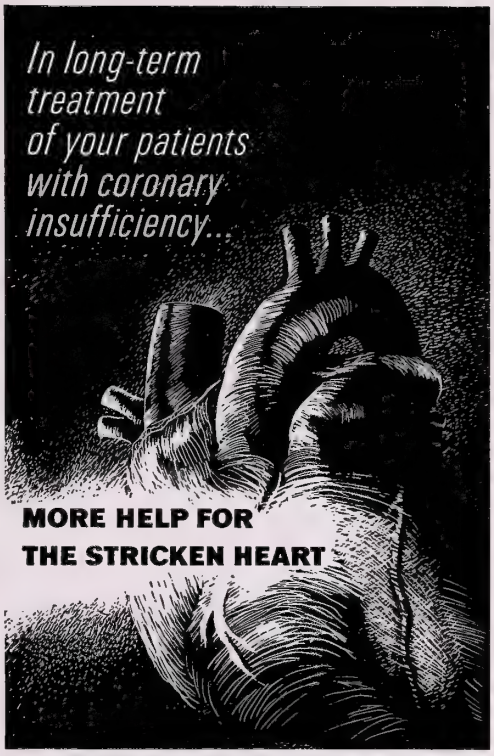
today, someone is usually within close proximity who can complete a half-finished operation, should this eventuality come to pass.

One of the things apparently unrecognized by the J. C. is the ultimate increased cost of medical care to the patient which results from its edicts. If a surgical assistant must be employed in instances where his presence is not actually needed, it is the patient who pays this additional cost.

Although all physicians must have some basic altruism, a surgeon cannot ask a colleague to give up a busy practice and assist at a lengthy operation without some form of recompense for his time. Also, a colleague cannot be asked to repetitiously donate his services for small operations without some remuneration. In the instance of multiple-doctor clinics and partnerships, this problem is more easily solved than in the instance of a solo practitioner. Unfortunately, in a majority of hospitals throughout the country, free slave labor in terms of interns, residents and fellows is not available. In the event an assistant is needed, the independent surgeon must employ a colleague who is in active practice. This colleague may or may not have training and experience comparable to that of the surgeon. If the surgeons are members of the American College of Surgeons, both must send separate statements for services rendered or face censure or excommunication from the College.

Today a majority of our population is covered by some form of health insurance. Most insurance companies have their own payment schedules for professional services, or follow fee for service programs which may or may not parallel established relative value schedules. Although they allow a stipulated fee for a given operation, the majority of the health insurance companies make no allowance for recompense to an assistant.

Each surgeon who has done much surgery has had the experience of enlisting a colleague to assist at surgery, submitting a statement to an insurance company (usually at a reduced figure so that the assistant's fee may be honored), and then have the company refuse to pay the assistant's fee or the full surgical fee. In this instance, the surgeon received less than his usual fee for service and the assistant received no fee at all for his services.



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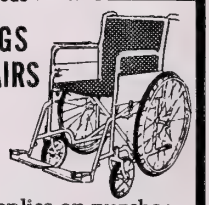
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If the surgeon had sent a statement for the total fee and then paid his assistant from his own office, this dilemma could have been solved. But, this approach is not proper in the eyes of the American College of Surgeons, a member organization in the J.C. Therefore, the J.C. has produced a many-headed monster which will proliferate and multiply if it is not in some way curbed.

The ultimate answer to this question may lie in the first paragraph of the CONCLUSIONS of the Report of the Committee to Study the Operation of the Joint Commission on Accreditation of Hospitals and adopted by the House of Delegates of the A.M.A., June, 1963. It is as follows:

"Your Committee concludes that we as physicians make our own accreditation. In short, we physicians ourselves make our own records, good or bad; we set up and operate our own laboratories, our x-rays, our pharmacies, our EKG laboratories, our pathological departments, our staff organizations, etc. If these facilities and departments are operated at our best level of achievement, and perhaps most important, are well documented, the accreditation will come by itself."

We're all for surgical assistants, when indicated, according to the requirements of the operation being done. But if the assistant

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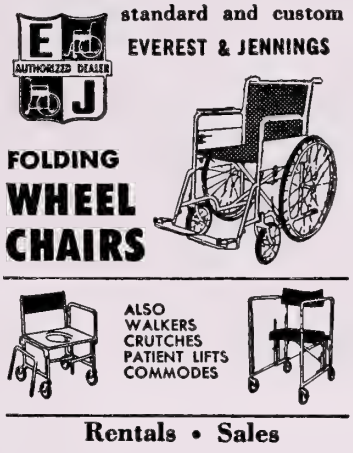
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becomes mandatory (in instances where his need is questionable) through an edict of the J.C., just how does the J.C. propose to solve the dilemma of payment of the assistant's fee by the patient or the insurance company without increase in the cost of the medical care?

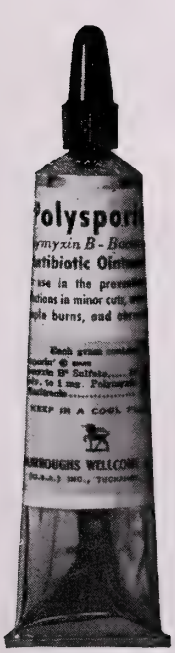
John B. Gregg, M.D.

The Sixteenth Postgraduate Assembly of the Endocrine Society will be held at the Mayo Clinic, Rochester, Minnesota, as part of the Centennial Celebration of the Mayo Clinic —Mayo Foundation, from October 5 through October 9, 1964. The General Chairman is Dr. J. C. Beck, Royal Victoria Hospital, Montreal 2, Canada. The Local Chairman is Dr. Edward H. Rynearson, the Mayo Clinic, Rochester, Minnesota 55901. Registration fee is $100.00. Registration will be limited to 250.

Program is available now. Please address inquiries and registration fees to Dr. E. H. Rynearson.



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BLUE SHIELD

CORPORATE BODY ANNUAL MEETING

MINUTES — MAY 30, 1964

MINUTES OF THE ANNUAL BLUE SHIELD CORPORATE BODY MEETING

Sheraton-Cataract Hotel

May 30, 1964 8:30 P.M.

The meeting was called to order by President Paul Hohm, M.D., at 8:30 P.M., Saturday, May 30, 1964.

Present for roll call were the following doctors: **Hayes, Steele, Hohm, Reding, Davidson, Perry, Stransky, Tank, Askwig, Leigh, Brogdon, Lietzke, Sattler, Sweet, Lowe, Johnson, Taylor, Vogele, Bartron, Tracy, Scheller, Anderson, Jahraus, Hanson, Mueller, Binder, Church, Gregg, Brzica, Ensberg, Myrabo, Knowles, Sanderson, Foley, Knabe, Semones, Cosand, Johnson, Janavs, Bloemendaal, Nelson, Swanson, Huet, Larson, Behan, Andre, Werthmann** and **Studenberg.** A quorum was declared present.

Dr. Hayes moved to dispense with the reading of the minutes of the last meeting, inasmuch as they were published in the Journal. Dr. Steele seconded the motion and it passed unanimously.

The financial report was discussed by Mr. Erickson and approved as read. Dr. Hohm also discussed the financial report on Medicare and OAA.

Nominations for appointment of four Board members were: Drs. T. A. Sattler, D. H. Breit, E. A. Johnson and Mr. Robert Beckwith. Dr. Jahraus moved that a unanimous ballot be cast for all nominees. Dr. Tank seconded the motion and it carried.

It was suggested that a clinic manager be chosen to fill the unexpired term of Sully Barnes. Dr. Johnson moved that the selection of a new Board member be made by the Board of Directors. Dr. Tracy seconded the motion and it carried.

The Board of Directors of South Dakota Blue Shield requested that the Corporate Body approve a $5,000 Single, $7,500 Family Service Benefit for the High Level Federal Employee Program effective November 1, 1964. Dr. Tracy moved that the Corporate Body accept the motion as presented. Dr. Johnson seconded the motion. A written ballot was cast; 27 voted for the motion, 13 against. Motion carried.

The Board of Directors of South Dakota Medical Service, Inc., requested that the Corporate Body consider and approve the new National Accounts contract utilizing the Service Benefits limits listed in the booklet sent to all members and also utilizing the present High Level Federal Employees Fee Schedule. Dr. Tracy moved that the Corporate Body accept the motion as presented. Dr. Johnson seconded the motion and it carried by a hand vote 22 for and 15 against.

At the August meeting of the Blue Shield Board of Directors, a resolution was passed asking that the Corporate Body adopt a $5,000 Single, $7,500 Family Service Benefit to be sold to subscribers in South Dakota. This contract would carry an appropriate fee schedule as the High Level Federal Employees schedule or a schedule based on the Relative Value Study with an appropriate co-efficient factor such as $5.50 per point. The Board asks that this contract be adopted by the Corporate Body utilizing the fee schedule presently used for the Federal Employees Program. The motion was discussed by the Corporate Body and Dr. Tracy moved that it be accepted as presented. Dr. Vogele seconded the motion. A hand vote indicated 22 against and 15 in favor of the motion. Motion did not carry.

Dr. Steele moved that consideration be given to the development of a Major Medical Plan by South Dakota Medical Service, Inc., and that the Board be given authority to investigate the adequacy of the present Enabling Act, and if found to be inadequate, to take the proper steps to change the ace so that the Corporation could write Major Medical coverage. Also, that the Board be given authority to develop the program with the restriction that the contract be presented to the Corporate Body for final approval prior to its sale in South Dakota. Dr. Tank seconded the motion and it carried.

Dr. Steele moved that the meeting be adjourned. Dr. Sattler seconded the motion and the meeting adjourned at 10:00 P.M.

SOUTH DAKOTA MEDICAL SERVICE, INC.
COMPARATIVE BALANCE SHEETS
DECEMBER 31, 1962 AND DECEMBER 31, 1963

ASSETS

	December 31, 1962	December 31, 1963	Increase (Decrease*)
Ledger Assets:			
Cash on hand and in bank	$ 79,982.24	$ 89,170.94	$ 9,188.70
Accounts receivable — Federal program	671.00	3,026.64	2,355.64
Accounts receivable — O.A.A. program	15,000.00	5,000.00	10,000.00*
Accounts receivable — N. W. Bell Tel. Co.	-0-	1,428.50	1,428.50
Certificate of Deposit — First National Bank	5,161.38	5,000.00	161.38*
Certificate of Deposit — Farmers and Merchants Bank	10,000.00	10,000.00	-0-
Certificate of Deposit — Western State Bank	10,000.00	10,000.00	-0-
Certificate of Deposit — American National Bank	10,000.00	10,000.00	-0-
U. S. Government — Treasury note	10,256.52	10,051.30	205.22*
Certificate of Deposit — First National Bank	-0-	20,000.00	20,000.00
Stock — Rushmore Credit Corp.	1,000.00	1,000.00	-0-
Mortgage Loan — S. D. Medical Association	23,101.88	22,225.48	876.40*
Total Ledger Assets	**$165,173.02**	**$186,902.86**	**$ 21,729.84**

LIABILITIES AND RESERVES

Accrued State of South Dakota premium tax payable	$ 2,747.30	$ 3,179.01	$ 431.71
Withholding tax payable	462.28	642.08	179.80
Social security tax payable	42.96	72.27	29.31
Accounts payable — Federal and N. W. Bell Telephone group	-0-	9,639.00	9,639.00
Advance payment — Federal Employees program	7,000.00	-0-	7,000.00*
Total Liabilities	**$ 10,252.54**	**$ 13,532.36**	**$ 3,279.82**
Deferred Income:			
Unearned subscriber dues	$ 41,686.00	$ 51,484.02	$ 9,798.02
Reserves:			
Estimated claims — not reported	$ 45,000.00	$ 53,000.00	$ 8,000.00
Surplus — Unassigned	$ 68,234.48	$ 68,886.48	$ 652.00
Total Liabilities and Net Worth	**$165,173.02**	**$186,902.86**	**$ 21,729.84**

COMPARATIVE STATEMENTS OF INCOME AND EXPENSES
YEARS ENDED DECEMBER 31, 1962 AND DECEMBER 31, 1963

	December 31, 1962	December 31, 1963	Increase (Decrease*)
Receipts:			
Earned subscription income	$718,237.67	$829,308.78	$111,071.11
Interest earned	2,759.66	4,058.19	1,298.53
	$720,997.33	$833,366.97	$112,369.64
Medical and Surgical Expenses:			
Participating physicians	$457,310.09	$537,076.10	$ 79,766.01
Non-participating physicians	138,570.08	145,806.59	7,236.51
	$595,880.17	$682,882.69	$ 87,002.52
Operating Expenses:			
Salaries	$ 33,889.56	$ 42,461.48	$ 8,571.92
Travel expense	6,466.34	7,202.93	736.59
Rent	3,999.90	4,755.15	755.25
Board meeting expense	768.20	1,023.58	255.38
Boards, bureaus and associations	1,361.59	1,587.72	226.13
Legal expense	999.96	999.96	-0-
Printing and stationery	4,214.59	4,694.87	480.28
Books, newspapers and periodicals	22.00	132.80	110.80
Postage	1,282.92	2,320.17	1,037.25
Telephone and telegraph	1,442.38	1,714.30	271.92
Advertising	5,632.73	7,642.35	2,009.62
Insurance	168.45	171.93	3.48
Employee relations	3,367.70	2,950.55	417.15*
Auditing, actuarial and consulting	615.94	567.65	48.29*
Outside service agencies	63,903.22	63,213.30	689.92*
Miscellaneous expense	47.69	169.84	122.15
Social security tax expense	799.15	1,140.57	341.42
Taxes — licenses and fees	3,903.24	3,763.97	139.27*
Furniture and equipment expense	7,535.19	6,273.31	1,261.88*
	$140,420.75	**$152,786.43**	**$ 12,365.68**
Less — reimbursements	10,055.73	10,954.15	898.42
Net Operating Expenses	**$130,365.02**	**$141,832.28**	**$ 11,467.26**
Total expenses	$726,245.19	$824,714.97	$ 98,469.78
Net Operating Income or (Deficit)	**($ 5,247.86)**	**$ 8,652.00**	**$ 13,899.86**
Other Charges or Credits:			
Estimated reserve for unreported services	5,000.00	8,000.00	3,000.00
Net Gain or (Deficit) to Surplus — Unassigned	($ 10,247.86)	$ 652.00	$ 10,899.86

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverb

Everybody is here for a purpose, but sometimes it's hard to see it!

The Mitchell District Medical Society met on August 6th at the Mitchell Country Club. **Dr. J. Patrick Steele,** President of SDSMA, made his official visitation.

Dr. Winston Odland, Huron Clinic, presented a paper on Head and Neck Cancer. Some twenty physicians attended the meeting.

* * *

Alan Domina, M.D., a native Nebraskan, has joined the Tyndall Clinic in Tyndall, South Dakota.

* * *

E. H. Heinrichs, M.D., Watertown physician, was recently elected Fellow of the American Academy of Pediatrics.

* * *

James Hovland, M.D., a native of Waubay, South Dakota, has joined the staff of the Aberdeen Medical Center. Dr. Hovland is a specialist in obstetrics and gynecology.

The Second Annual Fall Meeting of the American College of Physicians will be held Oct. 8-10 at the Hotel Biltmore in Los Angeles, California. For information write Edward C. Rosenow, Jr., M.D., Executive Director, 4200 Pine Street, Philadelphia, Pa.

* * *

Watertown's Memorial hospital has been notified that it has been approved for accreditation by the American Medical Association for the training of three students concurrently in a school of inhalation therapy. The school is one of seven in the United States which is accredited by the AMA.

* * *

"Occupational Skin Problems" is the subject of a symposium to be held October 12-October 15, 1964 at the Kettering Laboratory in Cincinnati, Ohio. Information can be obtained from the Secretary, Institute of Industrial Health, Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati, Ohio 45219.

USD SCHOOL OF MEDICINE PRESENTS COURSE ON HEART DISEASE

Basic Mechanisms of Heart Disease is the title of a one and one-half day course to be given at the University of South Dakota School of Medicine, November 6 and 7, 1964. Presented mainly by medical school basic science faculty, the program is designed to provide the doctor with a review of fundamental aspects and new information in the fields of biochemistry, physiology, pharmacology, anatomy and pathology as related to the heart and circulatory system. The application of this knowledge to the clinical management of heart disease will be considered.

The Section of Ophthalmology of the Southern Medical Association announced that the live television surgery to be presented at this year's meeting in Memphis, Tennessee, from November 16-19, 1964, will be on cataract and strabismus surgery.

For full information, please contact the secretary, Dr. George S. Ellis, 812 Maison Blanche Building, New Orleans, Louisiana.

ANY PAIN

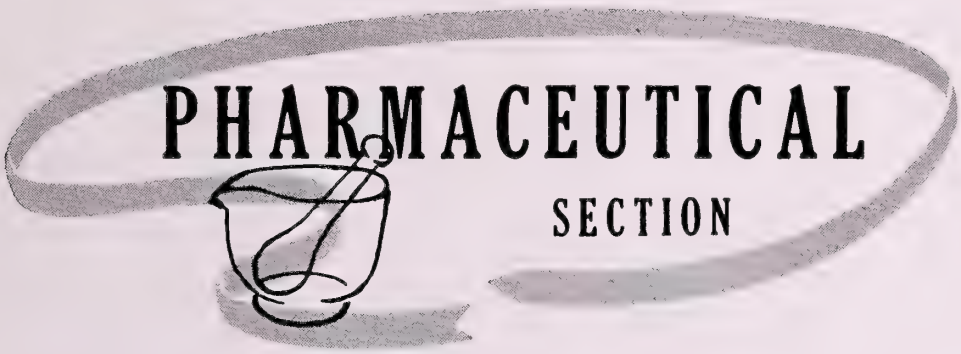
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EDITOR
College of Pharmacy
South Dakota State University
Brookings, South Dakota



"IN POSITION FOR PROFIT"*

by

Lewis C. Wyman**

The title "In Position for Profit" reminds me of the old saying: "He was lucky. He was just standing around when the balloon went up!" How many times have you heard this expression used to account for the success of an individual? And I wonder if at the same time you haven't asked yourself, "But was it really luck? Maybe he just knew where his opportunity was greatest and saw to it that he was there when the opportunity arose."

Of course, good fortune is a factor in any human activity. But, fortunately, the good Lord sees to it that the boon of good fortune is pretty well dispersed and fairly equally awarded to each of us. It's what we **do** with our opportunities that makes the big difference.

Like human beings, each major merchandise department in your store has its own set of opportunities—opportunities to attract attention—opportunities to create impulse sales—opportunities to create related sales—opportunities to stimulate the sale of larger sizes. But to take advantage of these opportunities, each department in your store must be in the right place at the right time. That's what we mean by "In Position for Profit."

There is only one right place for every merchandise department in any given drug store. There is only one **right** place for every merchandise department in **your** drug store. Now this does not mean that all drug stores should be laid out exactly the same. Every store has its own local conditions that must be considered in planning for a layout that will produce maximum volume and profit. Of course, the most important of all is the size and shape of the store area. Then there is the number and location of entrances and the frequency of use if there are more than one. The number and nature of the merchandise departments to be featured in the store also influence the layout. A drug store with a fountain frequently has a very different layout from a store without a fountain. After these initial "given" conditions are taken into account, the one right layout for your store can be determined.

At this point you might ask, "What if my competitor down the street has a store about the same size and shape as mine and carries the same merchandise departments that I do? Are you saying that his store should look the same as mine?" That's a good question. The individuality—the character—the atmosphere of every good traditional drug store should reflect the individuality of the pharmacist and should appeal to the specific trading area it

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* Presented at the 78th Annual Convention of the South Dakota Pharmaceutical Association, May, 1964, Mitchell, South Dakota

** Retail Trade Promotion Manager, McKesson & Robbins, Inc.

serves. But individuality and atmosphere are not functions of store layout.

Now to help you evaluate the layout of your store and to perhaps uncover opportunities to improve its layout, we will consider the outline of a drug store building. We will locate in this outline each of the major departments in the store, putting each one in its most profitable position—most profitable, that is, from the standpoint of over-all store volume.

Most of you surely remember the days when the ice cream company was urgently recommending the location of fountains in the front window. They had ample case histories to show that fountain volume would increase when the fountain was moved to the window location. No one could dispute that, but as retail pharmacists all over the country soon discovered, when the fountain was moved to the window it no longer played an important function as a traffic builder for other store departments. Store volume suffered. It is no wonder that soon afterward, many retail pharmacists lost patience with the fountain and did away with it altogether.

Another example is the prescription department. It is only five or six years ago that many pharmaceutical detail men and at least one major trade publication were recommending the so-called "Up-Front Prescription Department." Again, there were ample reasons for their recommendation. It did help to promote prescription volume. It did draw attention to the prescription department. But you don't hear much talk any more about the "Up-Front Prescription Department." Those who tried it soon discovered that it distorted the traffic flow in the store and created very costly dead areas.

Incidentally, out of this experiment came the elevated, dramatized and canopied prescription department that is now familiar in thousands of drug stores from coast to coast. Here the wise retail pharmacist has found a way to get the predominance he needs for his prescription department without distorting his traffic flow.

Now as we consider this virgin store area, the first basic decision we must make is which side of the store is to be devoted to the prescription, health and beauty departments, and which side of the store is to be devoted to the other departments. Obviously, we want to select the side that offers the best merchandising and display opportunities for the health and beauty departments. We in McKesson call this the "long wall principal." For example, the clearest, most uninterrupted merchandise department line-up can be achieved along the clear right wall. The **right side** of this store then will be devoted to the **prescription department, proprietaries, toiletries, cosmetics** and **related departments.**

Now we are ready to locate our first department. It should be (and it is) the prescription department. Of course, the size of the prescription department will vary depending upon the maximum prescription volume that is anticipated in this store and the number of required work stations. But its position in the store is determined by its necessary relationship with the main drug wrapping counter. This is the point of customer contact. Since over 70% of all customers who enter the store will come to this point in the store, it must be located as deep as possible in the store area to provide as much exposure as possible to the open displays of the front-store departments.

Many attempts have been made by many pharmacists to separate the prescription department and the main sales counter. But since the consumer does not make a clearcut definition in his mind between prescriptions and other health products and since we know he prefers to have the services of a pharmacist for at least some O.T.C. items, this plan has never been successful in a traditional drug store.

Parenthetically, we would like to say there are very definite exceptions to some of the things we will be saying about proper department position in connection with the large super drug stores that have been established in many regional shopping centers. These stores follow somewhat different layout principles because they perform a different role in the consumer's buying habits. They are actually "shopped" in a way that is different from the consumer's shopping habits in a traditional drug store.

So it is the necessary relationship between the wrapping counter and the prescription department that makes it desirable to place the prescription department as far back in the store as possible. The prescription department may stretch across the entire rear of the store and be elevated six inches from the floor level

to help to achieve additional dominance and dramatization. There is no doubt that every customer who enters a store with this arrangement will know that it features its prescription service.

Bay-styled shelving may be used. Some form of condensed storage for pharmaceutical stock is necessary in every modern drug store. No longer can prescription departments be adequately equipped with straight shelving behind the work counter.

Next we must position the drug wrapping counter or, as we call it, the "Sales Center." It should be as long as possible and, as we have said, adjacent to the prescription department.

Here's where your high-volume proprietary and toiletry departments are placed on display. Here is where you'll concentrate the displays of those departments that produce nearly 47% of the total store volume—vitamins, pain relievers, oral hygiene, shaving needs, deodorants, lotions and creams and hair care. To disperse these departments throughout the store decreases their volume because each of these departments contains fast-selling items that are frequently repurchased and present an excellent pick-up sale opportunity. These are the items that are presently doing a high volume in drug racks in variety stores, grocery stores and discount houses from coast to coast. To a very large extent they are the "bread and butter" items that by their very existence make possible the economic life of America's 57,000 drug stores. Upon these 57,000 drug stores America is very dependent for the kind of quick, easy community pharmaceutical service that has made a tremendous and, as yet, unsung contribution to America's public health.

If these departments are allowed to go by default to non-drug outlets, the inevitable result will be the drastic reduction in the number of drug stores serving the American public. These departments demand a position in the hottest spot in the store. If you doubt that your drug wrapping counter is the hottest spot, simply take note where your flooring wears out first.

By concentrating the departmental displays to the fastest-moving sizes of the fastest-moving brands, it is possible to make an excellent representation of each department on a Sales Center only 23 feet long with vertical displays. You see, customers' eyes sweep horizontally as they move along this counter back to the point of customer contact. Vertical displays will stop their eye with a familiar label, frequently purchased, and remind them of a product need in addition to the one that brought them into the store.

Frequently, it is necessary to extend the displays in each of these departments back to the wall case directly behind, and across the aisle to the gondola opposite. This kind of merchandising in depth is very profitable if the fastest-sellers are kept in the prime location on the Sales Center.

A well-organized Sales Center provides what amounts to a console of fast-selling merchandise at a point where customers congregate because of clerk activity.

I can't dispute that each of the departments could be given more display area in other parts of the store, but, of course, to be effective, displays must be exposed to customers. And these high-volume departments will suffer if they are used in an attempt to draw traffic to less active areas in the store. Also, there are other natural front-store departments to fill this function. You may ask why the Sales Center should not be placed along the front of the prescription department. The answer to this question is that the prescription department itself may become lost behind the Sales Center displays. It is also true that when a long Sales Center is squared-away to the main store traffic, the displays at either end of it (away from the main point of customer contact) tend to be very unproductive.

Next we place the cosmetic department just forward from the Sales Center. As a per cent to total store volume, the contribution of the cosmetic department is not impressive. It's running between 2% and 3% at the present time, but it is increasing. The cosmetic department has shown surprising vitality in the face of house-to-house and discount competition. Apparently it is a drug store "natural." Perhaps this is because health and beauty go hand in hand in the minds of the consumer.

It does represent a very substantial volume potential. And as you well know, many stores considerably exceed the average cosmetic share of total store volume.

Cosmetics have still another importance. By their presence in the store and proper promotion and display, they also accelerate the sale of high-volume toiletries such as hair care, deodorants and other promotional lotions and creams.

A 12-foot cosmetic department is a minimum in most drug stores. It may make use of a combination of open display, specialized lipstick display and underglass display.

Careful placement and use of incandescent light with good signage also builds the complete stocks image in the customers' minds. It also adds sparkle to glass and jewelry.

Now our next step in determining the best positions for profit for the major departments in this store is to leave the health and beauty side of the store and begin our alignment of the service departments along the opposite wall. As far to the rear of this wall as possible we locate the fountain.

Properly located, the fountain can be a very productive department in the store. Not only is it possible for this department to produce 42% gross profit, but better than 70% of the fountain customers who are drawn deep into the store will make other purchases. The fountain is also an important traffic builder in many locations. Properly managed, with a carefully planned menu, it can make a contribution to total store volume in excess of every other department in the store except the prescription department. Because the perimeter area in traditional drug stores is generally limited and because it is the most valuable area in the store, we ordinarily prefer to use bayed counters. Not only is service easier at the fountain but the fountain tends to stretch along the wall a shorter distance, leaving this valuable space for some other departments.

In larger stores, lighting and identification play a big part in dramatizing the fountain. Also bays may be **closed off** or **shut down** during low level periods and reopened for peak periods by merely using a "Not In Operation" sign.

Fountains, like stores, should express their own individuality. Properly identified, such as "Copper Kettle" — "The Feed Box," etc., they readily attach themselves in people's minds as meeting places and coffee break areas. Plan your fountain around your menu.

Our next step is the location of the Men's Center; that is, the tobacco department and its related merchandise. Ordinarily, this department should be placed to the front of the opposite wall.

Cigarettes account for by far the largest number of transactions in this department. Cigarettes are available at every other retail and food establishment along any shopping area. Consumers have been trained to purchase their cigarettes only a few steps from the front door of any retail store they enter. To some extent the same thing is true of cigars. If a drug store is to stock and sell cigarettes by the pack or cigars, these departments cannot be located deep in the store. They simply will not perform their function at all if they are not within a few steps of the front of the store.

This fact, then, is what forces the Men's Center to the front of the opposite wall. It is a condition of the tobacco business that we in the drug store field must live with if we wish to use these products to build traffic and give us additional sales opportunities.

The photo department may be located next to the Men's Center. This is possible only if the sales person in the Men's Center is able to sell photographic products. In many cases this is true. Here again, the display requirements of the department are varied. Flash lamps, film, and cameras require very different display techniques. Open display of flash bulbs, with underglass display of photo equipment and film that is under control is recommended. The unit requires only six feet of space yet offers a complete photo requisite and finishing department. If photo supplies and services are special skill departments, larger areas are recommended for this valuable department.

The card department should occupy a position away from a high-traffic aisle and may be placed deep in the store to draw card customers past other displays. In this layout, it is ideally located in the center floor area along the center aisle toward the rear. The cards may be placed facing each other across an aisle. As a general rule, center floor displays in a drug store should not be placed around a center floor fixture or gondola. Customers shop the **aisle,** not the **island.**

Magazines have a high impulse sale factor and should be placed where they will be seen



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by nearly all customers who enter the store. Location ahead of the Men's Center will achieve this purpose and still keep browsers out of a main traffic aisle.

Health and beauty departments should occupy the entire right wall. In deeper stores, additional space is available ahead of the cosmetic department. This space is difficult to merchandise because customers usually have passed it before their eyes have adjusted to the light level of the store. It does represent an excellent location for fancy gifts or some other special skill department that is especially promoted and is a special interest of the pharmacist or cosmetician or other store personnel.

The remainder of the center floor area provides an opportunity for the display of stationery and school supplies, baby needs, toys, hair care accessories, pet supplies, household needs, and special positions may be set aside for manufacturer's displays.

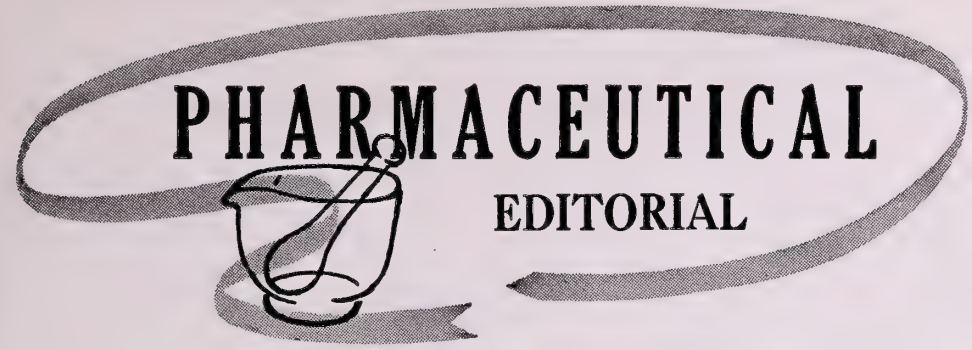
Now our layout for this store is complete. We have positioned each of the departments to be displayed in the store in its most profitable position, not **necessarily** from the standpoint of the department itself but from the standpoint of its contribution to the over-all store volume.

The **layout** is complete, but that's only the first big step in the planning for any store modernization. Following the layout we must plan for the individuality and atmosphere of the store through wise use of lighting, color and decor.

This layout may not be the right one for your store, but in the last few minutes I have tried to give you some of the ideas that will help you to arrive at the one best layout for your store.

The improvement of your store layout is worth the effort. Improved store layout works for you month in and month out. It can do more than any other business decision you make to put you and your store—"In Position for Profit."

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A FITTING TRIBUTE

Life in the United States is pretty good. A major factor which has contributed markedly to our standard of living has been the development and operation of the free enterprise system—the freedom of an individual to grow and progress to the extent that his ability and perseverance will take him. Competition is inseparable from growth and progression in a free society and competition leads to even greater growth.

Former President Hoover has recently said that what makes our country great is the freedom of our people to choose. Free choice is something with which too many people of the world are unfamiliar.

The doctor and his patient are directly concerned with free choice. The patient has freedom of choice as to which doctor that he will consult. The doctor has free choice as to how he will treat his patient—what method of therapy that he will use—what medicine or medicines that he will prescribe. Certainly the doctor will choose those medicines that are produced by the most progressive pharmaceutical companies. He will prescribe medicines tradenamed by those companies that have the best product development, the best product control, the ability to develop new and better medicines, the knowledge of exactly what their medicines will do—and the honesty to relate this information to the doctor.

How do these companies become leaders in their field? There is one answer—research. Competitive research under a free enterprise system.

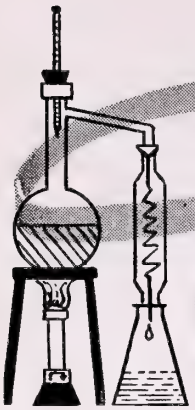
Last May, a major new research center was dedicated in Hanover, New Jersey. The center was built by Sandoz Pharmaceuticals and the dedication speech was delivered by **Dr. Carl M. Jacottet** of Basle, Switzerland. The following portion of Dr. Jacottet's speech contains some handsome tributes to American science, American medicine, and to America.

"Always in our plans, ladies and gentlemen, was the idea that research facilities would one day be built in Hanover. For we realized then, as we do now, the great value of decentralizing research efforts so that the benefits afforded by the different countries could be utilized. This is especially important in the case of the United States. For in your country, we find the most advantageous atmosphere for medical and pharmaceutical research in the world. No other country can boast the great medical teaching centers and hospitals that you have here. No other country possesses so many qualified clinical investigators in all areas of human disease.

"In addition, there is vigorous specialization in science in the United States and Europe and we recognize that in some fields your scientists are more skilled and knowledgeable than their European colleagues. Therefore, we feel that it is a wise concept to decentralize research to take advantage of this situation and to concentrate the research activities of our Hanover group in those areas in which American science is in the forefront.

"In this respect, I, as a representative of the Sandoz Basle Company, wish to express my gratitude for the hospitality and understanding which has been shown by American scientists, government officials and American pharmaceutical companies. We have found that our scientists have been welcomed warmly into the American scientific community and that your government officials and pharmaceutical companies have encouraged us to compete in the American market. We have not encountered in your country, as we have in some other countries, laws designed to prevent com-

(Continued on Page 52)



Advances In Drug Research

MIGRAINE SYMPOSIUM

What is a migraine headache? If you think you know, you're probably wrong. Even the specialists who ought to know confess they don't know all they would like to.

Dr. John R. Graham of the Harvard medical faculty devoted a thousand words to the definition before a symposium in New York. He stated unequivocally that migraine headaches are the result of a "genetic deficiency," and he offered his listeners and other panel members a number of observations and suggestions for further research.

Dr. Graham offered as "theory" the concept that migraine is "a paroxysmal disorder which manifests itself only when a stimulus (or stimuli) from the external or internal environment demands an adjustment of cranial circulation and metabolism which cannot properly be made due to a genetic deficiency."

Among observations which made up a fourth of Dr. Graham's thousand-word talk were:

Migraine affects both sexes.

It may cover the entire life span from infancy to extreme age.

It is episodic, self-limiting, is often followed by an immune period.

It is usually limited to one area in the head, but not always the same area in different attacks.

Stress and migraine are associated.

There is no "migraine-personality" type.

Among research suggestions, Dr. Graham cited:

The anatomy of cranial blood vessels.

The hypothalamus, that portion of the "old brain" which mediates vasomotor and metabolic reactions. But he added: "One finds it hard to understand why hypothalamic responses should be unilateral (migraine being generally confined to one side of the head)."

The production, storage, delivery and destruction of vasoactive substances in the autonomic nerves, blood vessels and tissues . . . serotonin, heparin and histamine.

Enzyme and protein systems in the blood of migrainous persons.

Dr. Graham concluded with these words: "In the search (for the cause of migraine) it will be difficult at times not to confuse cause with effect and to bear in mind that what we are looking for is most likely an **absence of something rather than its presence.**"

A third of migraine patients are victims of "psychic mechanisms," **Prof. T. Dalsgaard-Nielsen,** Danish authority on headaches, told the symposium.

However, Prof. Nielsen said, he did not accept the assumption that migraine sufferers conform to a "special psyche" or personality pattern even though "there may be certain distinctive psychic features in the migrainous patients seeking specialist assistance."

Prof. Nielsen expressed the opinion that psychic factors played no part in the migrainous headaches of 31 per cent of the patients he sees who, he made clear, are those who are driven by the severity of their affliction to seek a specialist's help. The remaining patients may appear to suffer from psychogenic headaches—but do not, in Prof. Nielsen's opinion.

It is this tendency to demand relief that characterizes most such patients, Prof. Nielsen emphasized. The fact that they are "sensitive, delicate, emotional, vulnerable, depressive, asthenic, self-centered, over-correct, perfectionist, enterprising, misunderstood, bitter, and inclined to retain offenses," helps explain why

they come to a specialist, not why they have migraine headaches, he said.

On the other hand, he explained, research conducted in his hospital shows psychogenic migraine headache patients to be either over-anxious or aggressive but inhibited.

Among the first group he classes those "whose entire situation is dominated by anxiety, whether it is a neurotic anxiety or a constant real menace . . . This headache can be demonstrated by palpation of the back of the head in such patients."

Among those patients exhibiting great inhibition of aggression, he added, "the headache . . . is chiefly bitemporal and is provoked by palpation of masticatory (jaw) muscles."

Placebo therapy (use of "sugar pills"), Prof. Nielsen said, had proved effective in reducing the frequency and severity of ophthalmic migraine in 25 per cent of the patients. He added: "For comparison, I may mention that, by prophylactic treatment with **dihydroergotamine,** I obtained improvement in 92 per cent."

Of the disease itself, although recent research has made it possible to treat many cases successfully and to prevent attacks, the Danish authority said: "The mystery of migraine is not solved. It resembles the Chinese box puzzle. Inside each box one succeeds in opening, another closed box is found."

More has been learned about headaches in the last 20 years than had been learned by medicine in all history before—but what has been learned "has raised more questions than it has answered."

Patients have benefited, however, according to **Dr. Arnold P. Friedman,** associate professor of clinical neurology at Columbia University College of Physicians and Surgeons.

Until four years ago, he said, there was no agent that could successfully prevent migraine. Now there is a preventative that is successful in about two-thirds of migrainous patients—**methysergide maleate** or Sansert.

"Some of our patients have taken methysergide daily for three years or more with considerable success in controlling their migraine," he noted. "The limitations of this drug are still to be determined."

For treatment of a migraine attack, Dr. Friedman said, "**ergotamine tartrate** which was first used in 1926 is still the most effective agent." Combining it with caffeine, he said, reduces the amount of ergotamine required, and the addition of other agents reduces side effects.

Accumulation of research data, Dr. Friedman emphasized, is the factor responsible both for advances in therapy and the opening up of new areas demanding further research.

During the last 20 years, he said, "there has been a rapid accumulation of data about the pathophysiology of headache, about the biochemical changes in the tissues about the head essential to the induction of pain, pharmacodynamic studies with agents that alter physiological and biochemical factors in the headache patient, a useful design for the classification of headache, advances in chemotherapy, and the appreciation of the part man's personality and experience play in headache."

He also said: "In my experience about 90 per cent of all headaches in office practice are more or less benign in that they involve psychophysical factors rather than permanent structural change or serious illness.

"There are two principal forms of therapy available for these patients—pharmacotherapy and psychotherapy . . . Ideal treatment should be directed toward eliminating the underlying cause and interrupting the mechanism of the headache and not primarily at treatment of the symptom."

Dr. Friedman described aspirin as "the most useful drug" in treating mild headaches. In headaches of moderate intensity, including muscle-contraction headaches, combinations of aspirin with sedatives are effective, he said.

Muscle-contraction headaches also can be prevented with psychoactive drugs, he explained, but such drugs "cannot replace insight and help to the patient in understanding his emotional problems."

3-D SHAPE OF MOLECULE OFFERS CLUE TO ACTION

There is a close connection between the three-dimensional configuration of an antibiotic molecule and its activity against bacteria. Evidence of this long debated relationship between structure and activity was offered by **Dr. Walter D. Celmer** at the International Congress on Antibiotics held last June in Prague, Czechoslovakia. Slight differences in the shape of an antibiotic molecule can have profound effects on its efficiency, Dr. Celmer said.

Dr. Celmer is a Section Manager in the

Chemotherapeutic Research Department at the Medical Research Laboratories of Chas. Pfizer & Co., Inc., Groton, Conn. He holds a number of patents in the antibiotic field and is the inventor of triacetyloleandomycin (TAO), a medium-spectrum antibiotic which is effective against many common infections and certain bacteria not vulnerable to other drugs.

In a project aimed at determining the actual spatial representation of oleandomycin, Dr. Celmer found the molecule possessed 18 asymetric centers with the possibility of **262,144 combinations** of 3-dimensional formations. His problem was to discover a single spatial representation for the structure of oleandomycin.

Dr. Celmer, by employing known and new chemical reactions and specially "trained" micro-organisms, succeeded in eliminating all irrelevant possibilities. By this process, known as "configuration analysis," the actual single 3-D structure of oleandomycin was obtained.

TAO (triacetyloleandomycin) has the same absolute configuration as the parent molecule.

Dr. Celmer proposes a "generic configuration" based on his theory that all related macrolide antibiotics (such as **erythromycin, carbomycin, methymycin** and **picromycin**) are produced in fermentations according to a fundamental stereochemical pattern. Knowledge of the general pattern and the nature of the subsequent biochemistry peculiar to each antibiotic provides a basis for predicting the stereochemistry of other related macrolide antibiotics.

Antibiotic research, Dr. Celmer believes, will soon produce an understanding of how an antibiotic actually works and why a disease germ becomes resistant to one antibiotic and not to another.

UNIQUE PEPTIDE SYNTHESIZED AT PFIZER RESEARCH LABS

Success in synthesizing for the first time an octapeptide (a chain of eight amino acids) analog containing a unit which is not an amino acid, has been reported from the Medical Research Laboratories of Chas. Pfizer & Co., Inc., at Groton, Conn. The change, an important one in peptide chemistry, opens the way to the possibility of wide medical usage for peptides.

As reported by **Drs. Hans-Jurgen Hess, Walter T. Moreland** and **Gerald D. Laubach,** the change consisted of substituting nitrogen for carbon in one of the amino acids in the peptide hormone **angiotensin II.** The result is a unique chain which retains much of the biological activity of the natural peptide and exhibits a prolonged duration of action in a living organism.

Peptides are widely distributed in nature, and many exhibit extremely potent and specific biological action. Well-known examples besides angiotensin are **insulin, ACTH, oxytocin** (promotes contraction of the uterus and is important in childbirth), and **bradykinin** (believed to be a factor in inflammation).

Peptides are composed of linked amino acids and may be considered to consist of two parts. The first, which is common to all peptides and proteins, is a "backbone" of repeating amide units which varies in length according to the number of amino acids in the chain. The second, which imparts the high degree of biological specificity to the chain, is the arrangement of "side groups" attached to the "backbone," and this is determined by the precise location of specific amino acids in the chain. These molecules generally have a short half-life in the body, being rapidly broken down by enzymes which inactivate them by chopping off part of the chain. For this reason they have had limited use in medicine since it means that they cannot be given orally and that their effects are often short lived.

Most synthetic modifications of peptides have been limited to modification of the "side groups" (substitution of one amino acid for another) or to alteration of the length of the chain (removal or addition of amino acids). The achievement of Dr. Hess and his coworkers has been to synthesize for the first time a peptide analog having a link in its "backbone" which is not derived from an amino acid. This change results not only in the retention of significant biological activity, but also in prolonged duration of action.

The experiment demonstrates that in order to be biologically active a peptide does not have to be composed of a sequence of amino acids, but may contain units in its "backbone" other than those provided by amino acids. The important practical implication is that, with continued study, a synthetic peptide may be designed which will not be rapidly broken

down by body enzymes, and which **may be taken orally.** Such an oral peptide could have considerable medical importance.

6-YEAR DIABETES STUDY CHALLENGES INSULIN NEED IN OVERWEIGHT ADULT CASES

Georgetown University medical researchers have concluded after a six-year study that the preferred drug for overweight adult-onset diabetics is neither insulin nor any drug that increases body insulin.

Their recommendation is an oral drug that utilizes blood sugar in the body cells, acting independently of the pancreas and its insulin.

They report in the July issue of **Medical Times** that the oral prescription drug, **phenformin,** known to physicians as DBI, is the drug of choice because "75 per cent of the patients who obtained satisfactory diabetic control while taking the drug also lost weight."

The report, resulting from studies supported by private grants and grants from the U. S. Public Health Service, makes a clear distinction between the drug, phenformin, and the other two oral agents, **tolubutamide,*** and **chlorpropamide,**** which are related chemically.

This section of the report reads as follows:

"At present, there are three oral hypoglycemic agents available by prescription. Tolbutamide and chlorpropamide are sulfonyureas that act by stimulating the pancreas to release more insulin. Phenformin is a biguanide that increases glucose utilization in the muscle and liver cells."

(Insulin is a fat-producing hormone. Whether given by injection or increased internally by the stimulating action of sulfonylurea drugs, it may interfere with the weight reducing measures so vital to control of diabetes in obese patients.)

Phenformin also was described as "effective in many patients whose previous response to the sulfonylurea drugs was unsatisfactory. However, the clinical investigators concluded that for mild "nonketotic" diabetics past middle age—not necessarily the overweight—all three oral drugs are useful. Of the two sulfonylurea drugs, they preferred chlorpropamide because it "is the easiest to use."

In discussing possible toxicity of oral drugs, the study found that "toxic effects have been negligible with all three drugs." "Excessive dosage" of phenformin, it was noted, can cause gastrointestinal upset.

On the subject of pregnant women, the report made the following noncommittal statement: "There is insufficient evidence to either justify or condemn the use of any oral hypoglycemic agent in pregnancy."

The Georgetown report also confirmed the recent work of **Dr. Samuel B. Beaser** of Harvard Medical School who found that in some diabetics a combination of chlorpropamide and phenformin gives better control than either drug separately and better control than that achieved with tolbutamide.

(At a recent American Medical Association meeting, Dr. Beaser estimated that of the millions of diabetics in the U. S. **300,000 could be taken off insulin injections** and would receive adequate control with this combination.)

DIURETIC AIDS DIAGNOSIS AS WELL AS TREATMENT OF HEART FAILURE

The use of a thiazide diuretic has been shown to corroborate a **diagnosis** of heart failure as well as aiding in its treatment.

In a study recently completed by **Maxwell L. Gelfand,** M.D., and **Louis Goodkin,** M.D., of the New York Infirmary, patients suspected of having heart failure were given a therapeutic trial with polythiazide (Renese) and the improvement of symptoms aided in corroboration of the diagnosis.

They reported their findings in a scientific exhibit during the 113th annual meeting of the American Medical Association.

Dr. Gelfand and Dr. Goodkin found that the administration of a non-cardiac acting diuretic removes edema fluid, decreases vascular congestion, lowers intravascular and intracardiac pressure, increases cardiac output and relieves other symptoms of congestive failure.

Early recognition and treatment, the doctors believe, will avoid pulmonary edema.

The early detection of heart failure is one of the goals of clinical diagnosis. To be able to pinpoint the earliest indications would make it possible for the physician to institute appropriate therapy and forestall the serious consequences of advanced cardiac disfunction.

A number of symptoms and signs are not

* Tolbutamide is also known as Orinase.
** Chlorpropamide is also known as Diabinese.

generally recognized as clues in the diagnosis of cryptic, or subclinical heart failure. Among these, a positive response to a therapeutic trial of an oral diuretic supports the diagnosis of heart failure.

They indicated that the chief manifestations of overt heart failure are classic, but in cryptic, or subclinical heart failure, the mechanical efficiency of the heart is only partially impaired as a result of which the myocardium cannot fully furnish the metabolic needs of the tissues. Early diagnosis and treatment, however, can forestall more advanced heart failure with its serious consequences.

While there is some difference of opinion concerning the fundamental cause of chronic congestive heart failure and several major theories are current, the retention of salt and water is a common factor. "This is probably the most important cause of edema and weight gain in heart failure," they said.

Polythiazide is a potent naturetic agent with a more favorable sodium-to-potassium ratio of excretion than other thiazide diuretics. A weight loss of at least three pounds in 24 hours can be observed when polythiazide is employed. The compound has a duration of action of at least 36 hours.

The study indicates that a thiazide diuretic can fill two roles—to aid in diagnosis and to continue in treatment.

TREATMENT OF RESPIRATORY DISORDERS CORRECTS SENILE BEHAVIOR, DOCTORS TOLD

Senile behavior usually attributed to incurable disorders of brain arteries can be the result of **treatable respiratory problems. Dr. Murray Miller,** reporting at a pre-convention meeting of the American Therapeutic Society cited case histories of elderly patients in whom a respiratory stimulating drug brought relief from memory loss, torpor, depression, aggressiveness, and argumentative behavior—all commonly identified with cerebral atherosclerosis, which is fibrous thickening and fatty degeneration of the inner walls of brain arteries.

Although vascular problems of aging existed in the patients, Dr. Miller said, the symptoms of senility were caused by chronic pulmonary insufficiency, resulting in higher than normal levels of carbon dioxide in relation to oxygen in the blood.

Dr. Miller cited typical instances of recovery by patients after treatment by him with a variety of methods but finally with **vanillic acid diethylamide,** known to physicians as Emivan. It was given by mouth. As an injectible drug, Emivan is widely used for lifesaving revival of patients in coma from overdoses of narcotics or alcohol and in similar emergencies.

In commenting on the drug, Dr. Miller said:

"In over three years of clinical investigation its stimulating effects have been shown to be reproducible. The rising level of stimulation is easily monitored and controlled.

"During 27 months we explored the utility of this respiratory stimulant. Its purpose was not dramatic lifesaving stimulation. It was intended to be used in patients with chronic hypoventilation."

Dr. Miller gave details of the case of a 75-year-old man as typical:

"He became mentally confused, lost his concentrating ability and developed echolalia (repetition of words spoken to him). He became irritable, argumentative, would fall asleep at the table during or following meals and slept poorly at night.

"He was started on Emivan, 40mg. 4 times daily. The patient was seen seven days later and responded to questions with simple yes or no answers, with apparent comprehension of the questions. His family stated that he apparently slept more comfortably at night and fell asleep less during meals." Two weeks later, or three weeks after receiving Emivan 4 times daily, further improvement was noted and in one month he was "making light jokes and comments. He appeared to be more alert, spry, and did not appear depressed nor confused . . ."

EDITORIAL —

(Continued from Page 47)

petition or to protect American industry. We know from our experience in Switzerland, where we have long had a similar attitude of encouraging free and open competition, that such a policy is of great benefit to the public. We can cite examples where we encouraged several well-known American pharmaceutical companies to enter the European market, which they did and achieved excellent results."



The Doctor's Visit, Jan Steen 1626-1679, Mauritshuis, The Hague

In Diverticulosis and Diverticulitis...

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"Diverticulosis ... a low-roughage diet is advisable.... Constipation is avoided, preferably by the daily use of Metamucil.

"Diverticulitis Mild, chronic symptoms of diverticulitis, such as diarrhea or flatulence also are treated[1] by low-roughage diet, adequate fluid intake and Metamucil...."

Usual Adult Dosage: One rounded teaspoonful of Metamucil (or one packet of Instant Mix Metamucil) in a glass of cool liquid one to three times daily.

Metamucil is available as Metamucil powder in containers of 4, 8 and 16 ounces and as flavored Instant Mix Metamucil in cartons containing 16 and 30 single-dose packets.

1. Welch, C. E., Diverticula of the Alimentary Tract, in Conn, H. (editor): Current Therapy—1961, Philadelphia, W. B. Saunders Company, 1961, pp. 224-225.

SEARLE

Research in the Service of Medicine

PHARMACEUTICAL NEWS

NATIONAL PHARMACY WEEK

The 1964 observance of National Pharmacy Week will be October 4-10. The theme will be — **Your Pharmacist—Serving You More—Serving You Better.** This theme is found on the streamer included in the 1964 September supplement of the APhA Public Relations Service and all pharmacists planning to enter the National Pharmacy Week display contest must include the streamer in their displays. The supplement also contains TV and radio spots, editorials, stories, and news items and is a part of the year-round PR Service obtainable through the APhA. The special National Pharmacy Week package is available for $5.00.

131st AAAS MEETING

The 131st meeting of the American Association for the Advancement of Science will be held in Montreal, December 26-31. Chairman of the Pharmaceutical Sciences Section (Np) is **Joseph P. Buckley,** University of Pittsburgh. Section Np's program is cosponsored by the AACP; ACA; ASHP; APhA (Scientific Section); and the NABP.

LOLA SCHUMAN LEAVES PHARMACY STAFF

Miss Lola Schuman has terminated her position as dental research technician at the College of Pharmacy as of August 1. After her marriage to **Phillip Johnson** in August, the couple moved to Madison, Wisconsin, where Phillip will attend medical school at the University of Wisconsin. Miss Schuman has been a valuable asset to the dental-pharmacy research project at the College.

EASTMAN, SCHULER, WILSON, AND OMODT ATTEND NATIONAL APhA CONVENTION

Roger Eastman, Board of Pharmacy member, **Harold Schuler,** Board and Association secretary, and **Gary Omodt,** associate professor of pharmaceutical chemistry, attended the 111th annual meeting of the American Pharmaceutical Association in New York City, August 2-7. Mr. Eastman was a member of a panel which discussed "Legal and Law Enforcement Aspects of Drug Reclassifications as an Outcome of National or State Legislation." **Bliss Wilson** is president of the National Association of Boards of Pharmacy.

PROFESSOR EMERITUS DIES

Edward R. Binnewies died on August 9. He retired eleven years ago as professor emeritus of chemistry and director emeritus of student affairs from South Dakota State University. He was on the staff of the University since 1913. Many former pharmacy students will remember Professor Binnewies as a teacher of inorganic and organic chemistry and chemistry of food analysis. Professor Binnewies was 83 when he died.

MEASLES LEADS NINE DISEASES UP IN '64

Nine infectious diseases — led by measles — were on the increase during the first six months of 1964 according to the Health Insurance Institute.

The Institute said that nine of twelve communicable diseases listed regularly by the Public Health Service showed some increase during the first six months of this year but that only measles, encephalitis, and strep throat and scarlet fever (added together) had significantly higher incidence.

Only three infectious diseases in the PHS listing—hepatitis, polio, and typhoid fever — were down.



Of 1,028 patients with confirmed respiratory infections... 954 or 92.8% were treated successfully with Signemycin®

Note:
Hammerl* selected his patients for treatment with Signemycin on the basis of demonstrated bacteriological resistance to other antibiotics or failure of previous therapy. Of 100 patients with various respiratory tract infections, 95 responded to Signemycin. Pathogens isolated included staphylococci and *Diplococcus pneumoniae.*

*Hammerl, H.: Wien. Med. Wschr. 108:629, July 26, 1958.

Condition	No. of Patients	No. Cured with Signemycin
Abscess, pulmonary	17	16
Bronchiectasis	19	13
Bronchitis	286	267
Bronchopneumonia	192	179
Empyema	12	11
Pneumonia, lobar	150	146
Pneumonia, other febrile	160	150
Various infected pneumopathies	192	172
Totals	1,028	954 (92.8%)

consistently effective...often when others fail

Signemycin®

tetracycline HCl, 167 mg.; oleandomycin as triacetyloleandomycin, 83 mg. capsules (250 mg.)

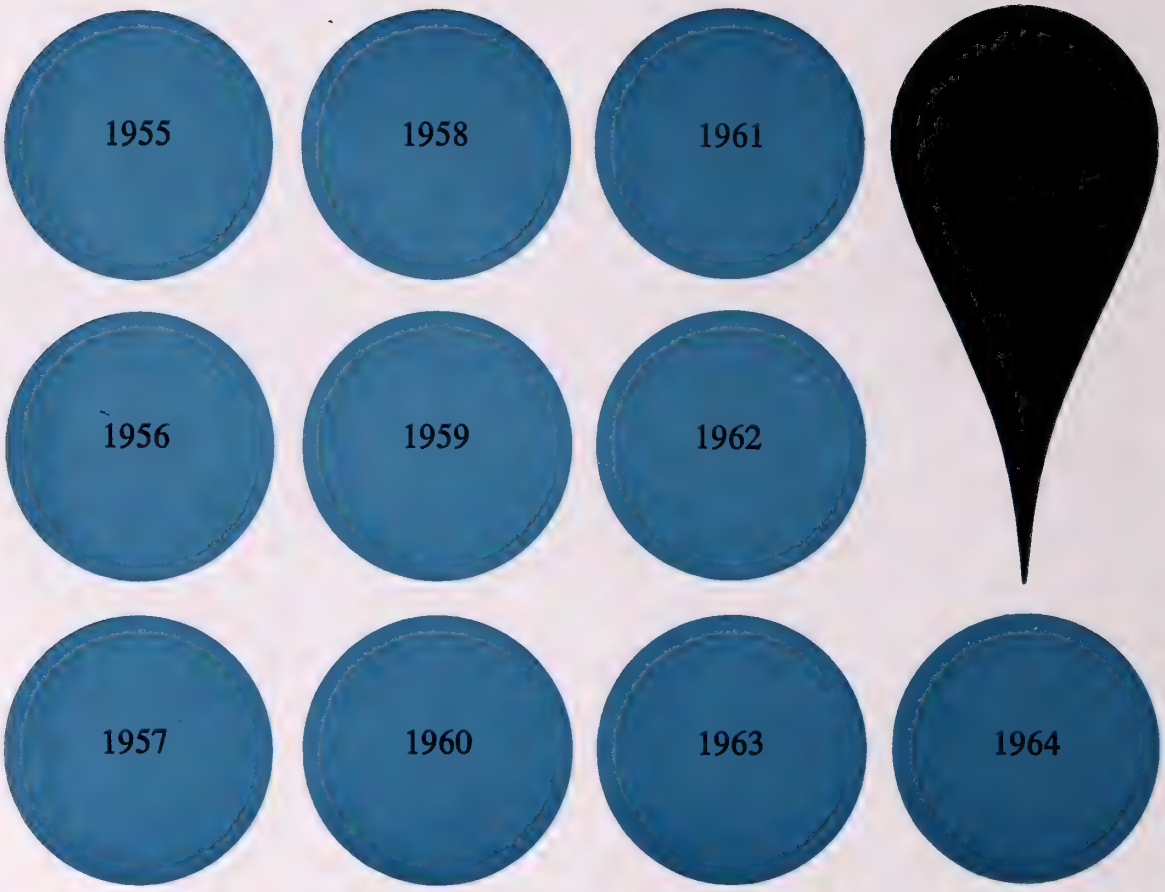
Also available as Syrup, Pediatric Drops, and half-strength Capsules

Brief Summary and Bibliography follow.

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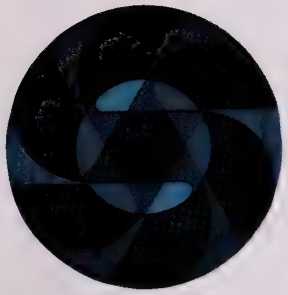


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(meprobamate)

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Of 507 patients with confirmed ear, nose and throat infections... 465 or 91.7% were treated successfully with Signemycin®

Note:
Adams,* whose 50 patients included 20 with ENT infections, stated that Signemycin "was particularly valuable in infections that did not respond to other antimicrobial agents, and in patients to whom penicillin could not be given." All his cases responded within five days; in most patients, all signs of infection disappeared in three days.

*Adams, J.: J. Tenn. Med. Ass. 50:446, Nov., 1957.

Condition	No. of Patients	No. Cured with Signemycin
Otitis media	90	86
Pharyngitis and laryngitis	162	148
Sinusitis	68	55
Tonsillitis and peritonsillitis	163	153
Various	24	23
Totals	507	465 (91.7%)

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Like umpteen million other Americans, Mr. Ray loves to fish. Unfortunately, in his part of South Carolina, public lakes are scarce.

Not one to be discouraged, he cashed in a few thousand dollars' worth of Savings Bonds and built his own. He has it well-stocked with crappies, catfish, bass and other fish. And an attractive 4-room cottage sitting beside it (also built by Mr. Ray with money he saved in Bonds).

In case you're wondering, Mr. Ray possesses neither great wealth nor superhuman powers as a saver. He accumulated the money for the lake, fish and cottage by joining the Payroll Savings Plan.

Every week the company sets aside $9 from his paycheck and puts it toward the purchase of a $50 Bond every month. His savings build up automatically.

Americans with all kinds of savings goals buy Bonds on the Payroll Savings Plan. And while their dollars build up a nest egg for their future, they help Uncle Sam safeguard our freedom right now.

Must be lots of important things you'd like to have in your future. Why not sign up for the Payroll Savings Plan where you work and see if it isn't the easiest way in the world to save for them?

Help yourself while you help your country

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Of 1,021 children with various confirmed infections... 950 or 93.0% were treated successfully with Signemycin®

Note:
The effectiveness of Signemycin was demonstrated by Chattas and his co-workers* who administered Signemycin to 30 children with serious staphylococcal infections resistant to commonly used antibiotics. Only one failed to respond. In each case the use of this drug was indicated by antibiogram. Those children treated with a nonselected antibiotic—for comparative purposes—took three times longer to recover.

Chattas, A. et al.: Antibiot. Med. 7:300, May, 1960.

Condition	No. of Patients	No. Cured with Signemycin
Eye, ear, nose, throat infections	368	343
Respiratory infections	369	346
Gastrointestinal infections	42	30
Skin and soft-tissue infections	38	37
Deep-seated or generalized infections	47	44
Various conditions	157	150
Totals	1,021	950 (93.0%)

consistently effective...often when others fail

Signemycin®

tetracycline HCl, 167 mg.; oleandomycin as triacetyloleandomycin, 83 mg. capsules (250 mg.)

Signemycin is also available as half-strength Capsules, preconstituted raspberry-flavored Syrup and Pediatric Drops

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SIGNEMYCIN®

Side Effects: Glossitis and allergic reactions, as well as severe anaphylactoid reactions, have been reported as rare side effects. Should significant reaction or idiosyncrasy occur, discontinue medication and institute countermeasures. Use of tetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of developing teeth. Reduce usual oral dosage and consider serum level determinations in patients with impaired renal function to prevent possible liver toxicity due to excessive accumulation of antibiotic in the serum.

Precautions: Overgrowth of nonsusceptible organisms may occur. In such cases, discontinue medication and institute appropriate specific therapy as indicated by susceptibility testing. Aluminum hydroxide gel given with antibiotics has been shown to decrease their absorption and is contraindicated. The coloring agents used in Signemycin Syrup and Pediatric Drops may produce red discoloration of stools.

Triacetyloleandomycin, a constituent of Signemycin, administered to adults in daily oral doses of 1.0 Gm. (3 Gm. Signemycin) for periods of more than ten days may produce hepatic dysfunction and jaundice. In the rare patient who requires this high dosage level of Signemycin initially, liver function should be carefully followed and dosage should be reduced, as promptly as possible, to the usual recommended range of 1.0 to 2.0 Gm. per day. Therefore, Signemycin is recommended primarily for the treatment of acute or severe infections, with treatment restricted to a ten-day period. If clinical judgment dictates continuation of therapy beyond ten days, serial monitoring of the liver profile should be carried out, including BSP, transaminase, and cephalin flocculation tests. Changes observed in liver function were reversible following discontinuation of the drug.

Formulas: Capsules: 250 mg. Signemycin (167 mg. tetracycline HCl and 83 mg. oleandomycin as triacetyloleandomycin).

Capsules: 125 mg. Signemycin (83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin).

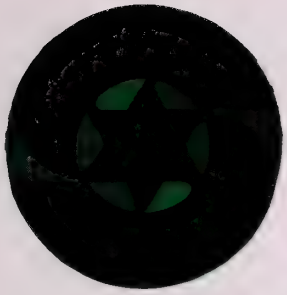
Syrup: 125 mg. Signemycin (tetracycline equivalent to 83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin) per 5 cc.

Pediatric Drops: 100 mg. Signemycin (tetracycline equivalent to 67 mg. tetracycline HCl and 33 mg. oleandomycin as triacetyloleandomycin) per cc.

More detailed professional information available on request.

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Of 5,057 patients with confirmed infections of all body systems... 4,731 or 93.5% were treated successfully with Signemycin®

Note:

The high rate of response to Signemycin in these cases is noteworthy because the totals include many patients with difficult-to-treat infections, many whose infections had proved resistant to other agents, and many who had been treatment failures on other therapy.[1-87] In addition the following criteria were used for the cases cited: (1) only published results were used (2) results were confirmed by clinical and/or laboratory findings (3) patients were cured, not "improved" (4) dosage conformed with current recommendations in the United States (5) no other anti-infective agents were used concomitantly (6) no instance of prophylactic use was included in these tabulations.

Condition	No. of Patients	No. Cured with Signemycin
Ear, nose and throat infections	507	465
Respiratory infections	1,028	954
Gastrointestinal infections	425	387
Genitourinary infections	748	684
Skin and soft-tissue infections	1,088	1,036
Bone and joint infections	71	64
Deep-seated or generalized infections	257	251
Obstetrical & gynecological infections	341	320
Miscellaneous conditions	592	570
Totals	5,057	4,731 (93.5%)

consistently effective...often when others fail

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tetracycline HCl, 167 mg.; oleandomycin as triacetyloleandomycin, 83 mg. capsules (250 mg.)

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MEDICINE *and* PHARMACY

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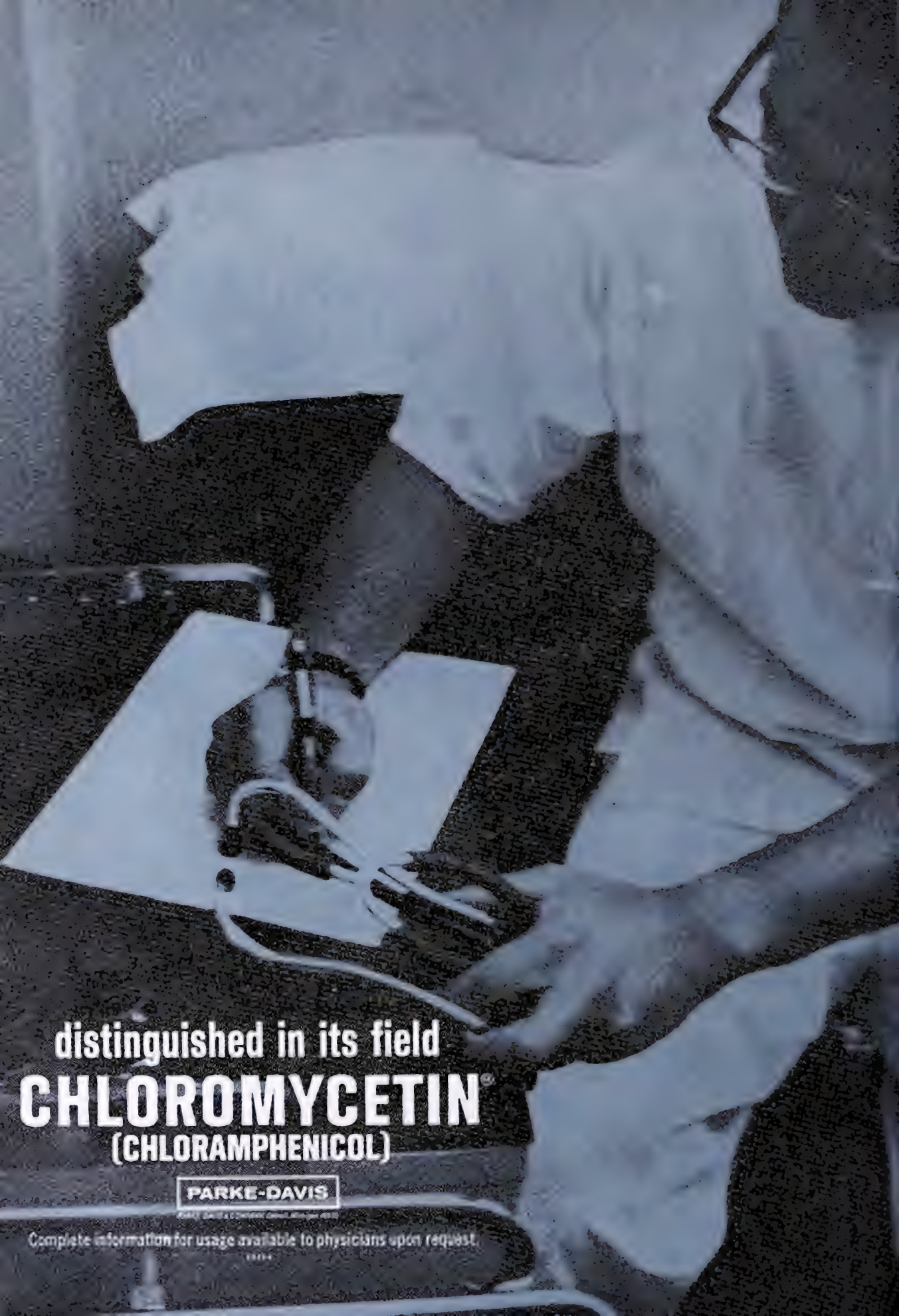
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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

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Volume XVII **October, 1964** **Number 10**

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*Hammerl, H.: Wien. Med. Wschr. 108:629, July 26, 1958.

Condition	No. of Patients	No. Cured with Signemycin
Abscess, pulmonary	17	16
Bronchiectasis	19	13
Bronchitis	286	267
Bronchopneumonia	192	179
Empyema	12	11
Pneumonia, lobar	150	146
Pneumonia, other febrile	160	150
Various infected pneumopathies	192	172
Totals	1,028	954 (92.8%)

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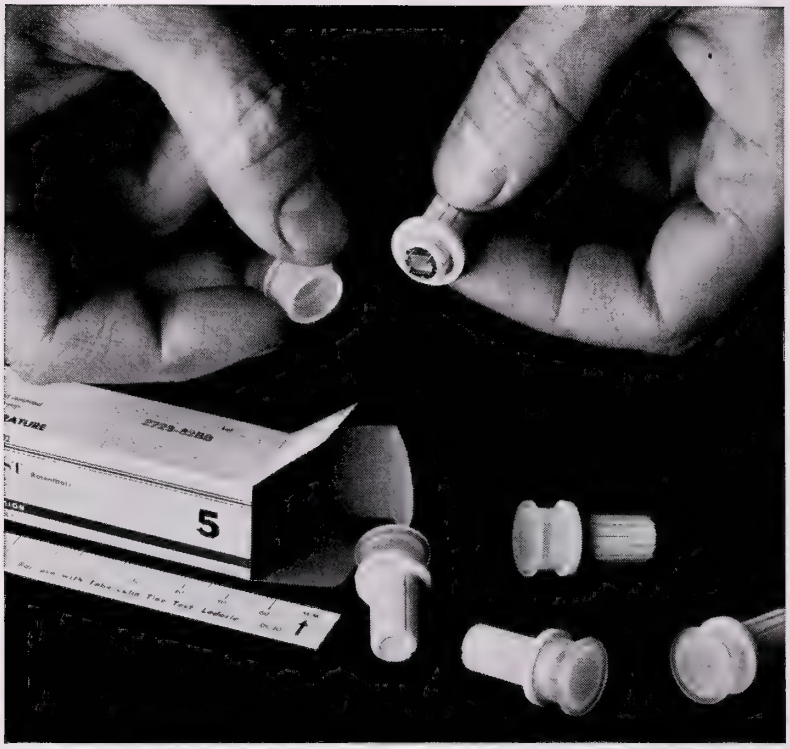
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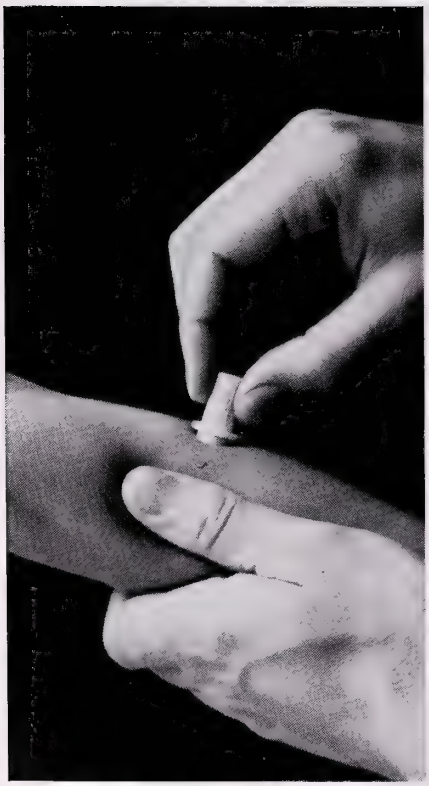
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Chattas, A. et al.: Antibiot. Med. 7:300, May, 1960.

Condition	No. of Patients	No. Cured with Signemycin
Eye, ear, nose, throat infections	368	343
Respiratory infections	369	346
Gastrointestinal infections	42	30
Skin and soft-tissue infections	38	37
Deep-seated or generalized infections	47	44
Various conditions	157	150
Totals	1,021	950 (93.0%)

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SIGNEMYCIN®

Side Effects: Glossitis and allergic reactions, as well as severe anaphylactoid reactions, have been reported as rare side effects. Should significant reaction or idiosyncrasy occur, discontinue medication and institute countermeasures. Use of tetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of developing teeth. Reduce usual oral dosage and consider serum level determinations in patients with impaired renal function to prevent possible liver toxicity due to excessive accumulation of antibiotic in the serum.

Precautions: Overgrowth of nonsusceptible organisms may occur. In such cases, discontinue medication and institute appropriate specific therapy as indicated by susceptibility testing. Aluminum hydroxide gel given with antibiotics has been shown to decrease their absorption and is contraindicated. The coloring agents used in Signemycin Syrup and Pediatric Drops may produce red discoloration of stools.

Triacetyloleandomycin, a constituent of Signemycin, administered to adults in daily oral doses of 1.0 Gm. (3 Gm. Signemycin) for periods of more than ten days may produce hepatic dysfunction and jaundice. In the rare patient who requires this high dosage level of Signemycin initially, liver function should be carefully followed and dosage should be reduced, as promptly as possible, to the usual recommended range of 1.0 to 2.0 Gm. per day. Therefore, Signemycin is recommended primarily for the treatment of acute or severe infections, with treatment restricted to a ten-day period. If clinical judgment dictates continuation of therapy beyond ten days, serial monitoring of the liver profile should be carried out, including BSP, transaminase, and cephalin flocculation tests. Changes observed in liver function were reversible following discontinuation of the drug.

Formulas: Capsules: 250 mg. Signemycin (167 mg. tetracycline HCl and 83 mg. oleandomycin as triacetyloleandomycin).

Capsules: 125 mg. Signemycin (83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin).

Syrup: 125 mg. Signemycin (tetracycline equivalent to 83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin) per 5 cc.

Pediatric Drops: 100 mg. Signemycin (tetracycline equivalent to 67 mg. tetracycline HCl and 33 mg. oleandomycin as triacetyloleandomycin) per cc.

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Note:
Adams,* whose 50 patients included 20 with ENT infections, stated that Signemycin "was particularly valuable in infections that did not respond to other antimicrobial agents, and in patients to whom penicillin could not be given." All his cases responded within five days; in most patients, all signs of infection disappeared in three days.

*Adams, J.: J. Tenn. Med. Ass. 50:446, Nov., 1957.

Condition	No. of Patients	No. Cured with Signemycin
Otitis media	90	86
Pharyngitis and laryngitis	162	148
Sinusitis	68	55
Tonsillitis and peritonsillitis	163	153
Various	24	23
Totals	507	465 (91.7%)

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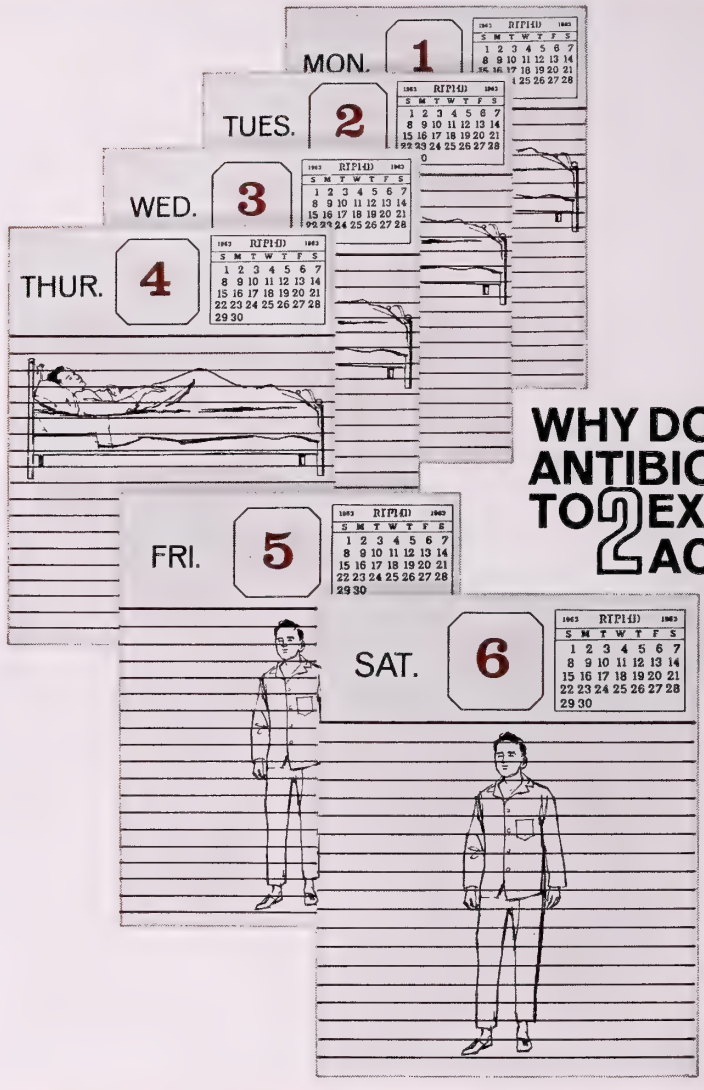
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Side effects: Slight drowsiness and, rarely, allergic or idiosyncratic reactions, due to meprobamate, and occasional dizziness or feeling of depersonalization in higher dosage, due to benactyzine, may occur. **Contraindications:** Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use of meprobamate or meprobamate-containing drugs. **Precautions:** Should administration of meprobamate cause drowsiness, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Although suicides with 'Deprol' have not been reported, prescribe cautiously and in small quantities to patients with suicidal tendencies. Massive overdosage of meprobamate may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Even though it has not been reported with 'Deprol', consider the possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage. *Complete product information available in the product package, and to physicians on request.*

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Salicylate Intoxication

By

Shirley A. Claassen, M.D.
Spencer, Nebraska

Introduction

Drugs are the most common cause of acute poisoning, and salicylates are the agents responsible in most cases. In 1961, for example, 63% of all medicinal and over 27% of the total childhood deaths from poisons were due to aspirin, and this percentage seems to steadily rise.[1]

When aspirin is given over a period of time for therapeutic purposes, the resultant salicylism is insidious in its onset and confusing in its clinical picture. The history of salicylate intake is often absent or quite misleading unless questioning is very persistent. The most common diagnostic pitfall in such cases is to diagnose pneumonia because of hyperpnea, fever, and leukocytosis. One of the first diagnoses to consider in an air-hungry infant is salicylate poisoning.

Pharmacology of Salicylates

Salicylates are fairly rapidly absorbed without hydrolysis from the stomach, but principal absorption occurs from the upper small intestine.[2] Sodium salicylate is absorbed promptly with peak blood levels reached in about two hours,[3] and the concentration then decreases over the next eight hours with 70% excreted in the urine over the next 15 to 30 hours. Very high dosage may require 6 to 10 days.[2] Renal excretion is greater with alkaline urine.[4, 5, 6, 7] Acetylsalicylic acid is more slowly absorbed, and methylsalicylate is even more slowly absorbed, so that gastric lavage should be done in case of the latter's ingestion, even if a few hours have elapsed.[8, 9]

Salicylate in the plasma is bound to protein with 90% bound at the 4 mgm% and 54% at the 70% mgm level.[2] Distribution of salicylate in body compartments has not been studied too extensively. Schreiner et al[10], reporting upon two patients with similar blood levels, one of whom was comatose and one awake, raise questions concerning selective concentration in various organs. Their calculations derive a volume of distribution (salicylate space) of 18 to 21% of total body weight.

Pathophysiology of Salicylism

The first and probably most outstanding sign in the patient with acute salicylism is hyperpnea secondary to stimulation of the respiratory center.[11] By lowering the concentration of alveolar carbon dioxide, the blood pH increases. The compensatory mechanism of bicarbonate excretion is accompanied by increased sodium and potassium excretion. Significant hypokalemia leads to hypokaluria, and as the latter favors hydrogen ion excretion, systemic alkalosis with paradoxic aciduria results.[12]

If the dose of salicylates is large and especially if the patient is a child, there is soon a superimposed metabolic acidosis, probably secondary to accumulation of organic acid metabolites and ketosis.[13] The pH falls, and compensatory mechanisms of hyperpnea and decreased transfer of hydrogen ions out of cells act to lessen it. The blood pH in uncomplicated salicylism is rarely less than 7.15 in spite of marked reduction in serum bicarbonate concentration.[12]

Additional clinical features unrelated to acid-base disturbances are significant. Vomiting is nearly always present and is due to central stimulation as well as local irritation. Large doses first stimulate and then depress the central nervous system.[11] Excitement, delirium, convulsions, stupor, and respiratory failure may all appear. Some patients have headache and evidence of 8th cranial nerve irritation. Profuse sweating and fever are usually present, probably secondary to action on hypothalamic centers.

Bleeding occurs somewhat late in the picture and is due to vasodilatation plus reduction in prothrombin secondary to an anti-vitamin K action in the liver.[14] The level of circulating fibrinogen falls also, probably because of failure of synthesis by the liver.[15] Bleeding from the gastro-intestinal tract sometimes is massive in amounts.

Management of Salicylism

The patient who has ingested salicylates may appear well for several hours and then become symptomatic. Unless it can be established that the amount ingested was small or completely recovered by emesis or gastric lavage, further observation and treatment should be undertaken. The estimated safe aspirin dose is 0.15-0.2 gm (2.25-3.0 gr)/kg body weight/24 hours. Methylsalicylate is much more toxic, a dram being equivalent to 45 grains of aspirin.[16]

Debates still arise on whether lavage or emesis is more effective in removing ingested poisons. One of these procedures should be carried out if ingestion occurred within 2 hours in the case of aspirin and even longer in case of methyl salicylate. In one series of dogs emesis induced immediately or delayed as long as 1½ hours after ingestion appeared to be more effective than lavage.[17] Sodium bicarbonate should not be used as a lavage fluid, as this increases salicylate absorption.

A theoretical consequence of severe respiratory alkalosis may be interference with tissue oxygen transport. Alkalosis shifts the oxy-hemoglobin dissociation curve to the left, hence for a given oxygen saturation there is less oxygen available for diffusion into tissues. This factor is more important in salicylism than in other forms of alkalosis, as salicylates directly stimulate cellular metabolism, increasing oxygen consumption and uncoupling oxidative phosphorylation.[18, 19] In the face of increased oxygen demand and decreased oxygen supply, Robin et al[20] gave oxygen by nasal catheter to their patients with salicylate intoxication.

Proper therapy of salicylate intoxication is not difficult if the physiologic abnormalities are understood.[21] Hyperthermia and dehydration are the immediate threats to life, and initial therapy must include tepid baths and adequate fluids. To prevent bleeding, Vitamin K mgm one/15 gr aspirin ingested should be given intravenously, and Vitamin C mgm 100-200 should be given for capillary strength.

On admission, blood should be drawn for electrolytes, pH, and salicylate level. The

plasma carbon dioxide level is reduced in both the initial primary respiratory alkalosis and the later metabolic acidosis, and a pH determination is essential for proper evaluation. A catheter is inserted to record urine volume, pH, and salicylate level. Done's graph of serum salicylate level vs. time after ingestion[22] can be used with assurance in most cases. A serum salicylate level of 60 mgm% twelve hours after ingestion denotes moderate intoxication, but this level forty-eight hours after ingestion suggests severe intoxication.

Most children on admission are in metabolic acidosis with isotonic dehydration and would benefit from fluids similar to those given in diabetic acidosis. Since many patients are in shock or have a greatly diminished extracellular fluid volume, they should initially be given lactated Ringer's solution 20-30 cc/kg body weight rapidly IV.

An important consequence of alkalosis is development of hypokalemia.[20] An alkaline pH draws H+ out of cells in exchange for extracellular K+ and also causes excessive renal loss of potassium.

With hypernatremia and its resultant cellular dehydration and extracellular hyperosmolality, K+ and H+ compete for the Na+ during the latter's distal renal tubule reabsorption in alkalosis. The H+ deficit favors exchange of K+ for Na+, leading to significant depletion of both intra- and extracellular K+. As renal excretion of K+ is raised, H+ entering cells aggravates the alkalosis and further K+ loss occurs.

Renal tubular lesions have been noted in humans depleted of potassium,[23] and these may be in the same site as that responsible for concentration of urine.[24] How quickly K+ depletion leads to deficient concentrating mechanisms is unclear, but Robin et al[20] noted polyuria and hyposthenuria as hypokalemia developed and return to normal as large quantities of potassium were given.

Studies on many patients have demonstrated the hypokalemia during the stage of respiratory alkalosis, and this can be seen from the electrocardiographic abnormalities and changes in neuro-muscular function. Large quantities of potassium are required to repair the depletion. Metabolic acidosis has been prevented when adequate potassium was given early.[20] The movement of sodium into cells can be prevented by giving potassium early.[25] Most workers recommend giving 30-40 meq K+/liter of fluid, and Friedman and Stocks[26] give potassium early (even before the patient voids) after evaluating an EKG.

For some time it has been known that salicylates are excreted more rapidly in an alkaline urine.[3] Especially in patients under four years of age alkalinization (pH 7.5+) of the urine has been advocated as a method of increasing the excretion rate of salicylates.[27, 28, 29] Most authors recommend giving sodium bicarbonate only if the serum pH is below 7.15.[30]

There are several dosage schedules[5, 27, 30, 31] available, but nearly all workers agree that the CO_2 level should never be acutely raised to normal, as severe alkalosis will result from the continuing hyperventilation — one of the last signs to disappear. A good rule would be to give 5-10 cc of the 3.75% solution of sodium bicarbonate/kg body weight slowly IV. This can be repeated in 10-30 minutes if the urine is still acid, but most authors do not recommend over two doses.

In most cases of acidosis specific treatment with sodium bicarbonate is unnecessary and sometimes harmful. These patients tend to recover through a phase of alkalosis with a low pCO_2 even when no alkali is given.[12] Administering large doses of these salts can only accentuate or accelerate the alkalosis. The development of tetany during sodium bicarbonate administration in salicylism with death during convulsions has been reported in dogs;[32] and some workers[10, 26] have reported convulsions in humans treated with sodium bicarbonate.

The efficacy of bicarbonate over that of adequate and early administration of proper IV fluids is questioned by some. In one series about one-third of the patients treated with sodium bicarbonate showed the same fall in blood salicylate level as did the patients treated with fluid alone.[27] Campbell and Maclaurin[33] and Harvie and Singer[11] raise substantial doubt as to the efficacy of this therapy.

Salicylates inhibit at least two steps of the tricarboxylic acid cycle.[34] It will be seen that the removal and oxidation of ketone

bodies will be impaired, and ketonemic acidosis will result. For these reasons, sodium bicarbonate is preferred over sodium lactate, as the latter must be oxidized via the Krebs cycle to raise the plasma's bicarbonate level.

In 1959 Nahas[35] first used Tris (Hydroxymethyl) Aminomethane (THAM) in vivo. Because of its direct action on lowering pCO_2 and having a large volume of distribution in the body, this agent is theoretically better than sodium bicarbonate for use in salicylism. However, its side effect of respiratory depression will limit its clinical usefulness.[36]

Since salicylates are excreted more rapidly in an alkaline urine, agents that decrease the number of hydrogen ions secreted by renal tubule cells should facilitate salicylate excretion. Acetazolamide (Diamox), a carbonic anhydrase inhibitor, antagonizes the formation of carbonic acid in the kidney, thus cutting off the source of hydrogen ions. However, this inhibits the kidney's powers to deal with the metabolic acidosis. Studies on animals show that the use of Diamox in these cases is dangerous.[34]

Probably the most important requirement of patients with salicylate intoxication is adequate quantities of IV fluids, so that losses can be replaced and the kidney can compensate for electrolyte imbalance. Water balance studies are not available on patients with salicylism, but their hyperpnea, fever, sweating, vomiting, and early polyuria all may add to the fluid deficit.[21] Estimates of fluid losses have been 80-120 cc/kg body weight or 3200-4800 cc/M^2 body surface/24 hours.[26]

The urine volume, as well as the pH, determines the rate of salicylate excretion[37] and is dependent upon an adequate circulating blood volume and sufficient water intake. The safety of giving fluids at a constant rate of more than 6000 cc/M^2 body surface/38 hours in healthy persons has been well documented.[39] Relative intolerance to water, as seen in a few disease states, rarely complicates the management of acute salicylism.

The goal of various therapeutic regimens recently advocated for acute salicylism appears to be the rapid removal of salicylates from the body. Although some authors[10, 39] have stressed this point, there is no evidence that this lowers morbidity or mortality. Factors such as time-dose relationship, treatment before admission, and the patient's underlying status must all be involved.

James et al[40] used exchange transfusion, peritoneal dialysis, and hemodialysis in treating dogs intoxicated with salicylates and concluded that hemodialysis was most effective, and most workers are in agreement.[10, 39] However, they noted salicylate excretion in the urine was often greater than that removed by peritoneal lavage or exchange transfusion and concluded that corrective fluid therapy should be used immediately and that additional methods of treatment are no substitute for fluids and should be used only when oliguria or cardiac failure make vigorous fluid therapy undesirable. Familiarity with and access to these more complex techniques[41, 42] for treating acute salicylism are major factors in their efficacy.

Summary

The importance of acute salicylism is stressed. The pharmacological aspects of salicylates and pathophysiology of salicylism are discussed.

Probably the most important requirement of patients with salicylate poisoning is adequate quantities of intravenous fluids. Other techniques, such as exchange transfusion, peritoneal dialysis, and hemodialysis, are reserved for patients who are seriously ill or do not respond to adequate hydration. Familiarity with and access to these techniques are major factors in their efficacy.

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New Viral Exanthems

By

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Since the first description of the virus, there has been a gradually increasing number of diseases that have appeared to have this etiology. With the discovery of tissue cultures and the successful growth of the organisms in laboratory, there has been a cascading description of new viruses, and as a consequence many distinct diseases recognized. Most of these had either been ignored before or had been loosely grouped with the known viral exanthems of childhood.

Several new and distinct illnesses have been described since 1954 that are apparently caused by the enteric virus groups ECHO and Coxsackie. One of these was seen by Crawford[1] in London in 1954. Large epidemics were seen throughout the world from 1955-1958. In the Summer and Fall of 1957 it is estimated that there were as many as 40,000 cases in Milwaukee and probably well over 400,000 in Minnesota. Through rather exhaustive tests it was finally established that this illness was constant enough to be a definite syndrome and ECHO, Type 9 was identified in a high percentage of cases in the spinal fluid, blood, feces, and throat. The incubation period was roughly five to eight days.

Although the disease appeared in both children and adults, the symptoms varied slightly and seemed to be more severe in the adult patient. The rash was seen more commonly in children. The onset was accompanied by fever of 99 to 103°, a sore throat, and irregularly, nausea and vomiting. 17% of the patients had abdominal pain. When

meningitis was present there was an additional complaint of headache, general malaise and lethargy. A rash lasting for three to five days covered the head and trunk and spread to the entire body. The eruption was maculo-papular and frequently petechial with a very rare vesicle and was present during the time of fever. In one-third of the patients in the early part of the infection there was a definite enanthem consisting of red or grayish red spots on the buccal mucosa.

Since meningitis was present in a large number of cases, the presence of petechia raised the question of the differential diagnosis of meningococcemia. Recovery was usually rapid and complete in two to five days.

A disease with a similar rash was noted in Boston in the Summer of 1951 by Neva[2] and Associates. This received the name of Boston exanthem and has since had several other aliases. The causative agent has been found to be ECHO, Type 16. The incubation period of this rash ranged from three to eight days. Both adults and children complained of fever, general malaise, mild sore throat, headache, and abdominal pain (the latter being more common in adults).

Examination revealed pharyngitis, enlarged posterior auricular and cervical nodes, stiff neck (when meningitis was present) and a rash first covering the head and trunk and then becoming generalized. No children with rash had aseptic meningitis. The maculopapular rash lasted from one to five days and was noted during or after the fever. A definite enanthem with this illness consisted of punched out ulcers on the soft palate and the pillars. There was a high incidence of aseptic meningitis.

Robinson and Rhodes[3] working in Canada in 1958 described a disease in which they noted a vesicular disease that might be confused with chickenpox. The etiology was fairly firmly established as Coxsackie A 16 and it has received the unique name of hand, foot and mouth disease. The incubation period was noted to be from three to seven days with the highest incidence in the Summer months. The symptoms consisted of mild fever for two to three days with a usually non-pruritic maculo-papular and vasicular eruption. Except for a mild pharyngitis, there were essentially no abnormal physical findings. The vesicles were seen on the hands, lower legs and feet and punched out ulcers were found on the tongue, soft palate and buccal mucosa. All age groups may be involved.

From 1959 to 1961 while studying Summer rashes, Cherry[4] and his group described a distinct association of Coxsackie A 9 with one of these eruptions. Incubation period was roughly from two to twelve days with symptoms consisting of high fever, sore throat, coryza, cough, headache, nausea and vomiting. The patients were found to be moderately toxic with injection of the mucous membranes of the pharynx, enlargement of the cervical nodes and occipital nodes and a stiff neck (when aseptic meningitis was present). The maculo-papular rash started on the face, spread to the trunk and finally became generalized. Vesicles and petechiae were frequently seen and many were surrounded by an urticarial wheel. Although there has long been some suspicion that urticaria might be associated with virus infections, this is one of the first examples in which a virus was actually isolated. The rash occurred during the fever and lasted from three to five days. The average child was more apt to have the rash, while the adults more frequently had aseptic meningitis with no rash. Pneumonia was an occasional feature of the illness.

During this same study Dr. Cherry's[5] group also described a rash due to Coxsackie B 5. The incubation period was questionable, although it seemed to be from four to seven days. The symptoms were mild even though many temperatures ran to 102 or 103° for two or three days. Cervical, posterior, auricular, and occipital node enlargement accompanied a fine erythematous maculopapular rash that occurred during or after the fever. The rash started on the head and trunk and then became generalized, lasting from one to two days. Most of the patients were quite young, averaging less than a year. The association of aseptic meningitis was felt to be infrequent. In other epidemics associated phenomena were seen consisting of pleurodynia, neonatal myocarditis, pericarditis and orchitis. The illnesses due to ECHO 16 and Coxsackie B 5 both resemble roseola infantum. (Continued on Page 26)



Physician "Giving" to Medical Education in South Dakota

By

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South Dakota physicians have a rather distinguished record in their contributions for support of medical education. Indeed, historically, the organization of the Medical School Endowment Association in 1947 (incorporated 1949) was a very significant factor in stimulating the South Dakota Legislature at that time to appropriate sufficient funds to develop a fully accredited medical school in a modern physical plant. Indeed, the early organizers of this Endowment Association, such as Drs. Pankow, Brown, Saxton to mention only a few, have remained consistently active and interested in the support of the Association over the years.

A couple of years following the incorporation of the State Endowment Association, a national effort in support of medical education was initiated by the American Medical Association with the organization of the American Medical Educational Foundation (now called the AMA-Education and Research Foundation). Solicitations for contributions to AMEF were made at the state and national levels by the medical associations for many years, but with the development of the AMA medical student guarantee loan fund as a function of AMA-ERF, the campaigns for contributions have been made from the national office.

There are in effect, then, three funds for which specific contributions are solicited, namely as follows:

(1) The South Dakota Medical School Endowment Association sponsored by the State Medical Association. This fund now has assets in excess of $68,000 and, for several years, the major share of the contributions have been used in support of a medical student loan program. At the present time some $36,000, or about one-half of the total assets, are in the form of low interest (4%) bearing secured notes signed by medical students. This fund has been of invaluable service over the years in meeting relatively small and more or less emergency financial need of the students.

(2) The AMA-ERF funds for the Medical School Support Program which represent a direct contribution to the operating budget of the school provide the opportunity for physicians to contribute in one of two ways. First, the contributor may designate his school of choice, or where contributions are

non-designated as to school, the funds are pooled and prorated to the medical schools along with the designated contributions. These funds have been of substantial assistance to the medical schools in meeting operating expenses. They have never been assigned for research purposes but have generally been applied to purchases of substantial items of equipment for the teaching program, and in general, support of faculty maintenance exclusive of salaries. The value of such funds is that they are unassigned in specific budget categories, as is the case with most appropriations or grant funds, so they may be used to meet the ever-occurring emergencies.

(3) The AMA-ERF Medical Student Loan Program represents another fund for which physician support has been solicited on a national basis. Some idea of the importance of this fund to the medical students is emphasized by the fact that since the processing of the first loans to South Dakota students in 1962, in 21 months 44 loans were approved for a total value of $51,900 for an average of more than $1,100 per student. The number of loan applications (44) would represent exactly 50% of the student body.

In compiling the following data to show the extent of physician support to these several programs, the author felt it of interest to make comparisons over recent years to show the pattern represented. Several points must be emphasized in order to properly interpret the figures. First, the number of contributors does not always represent individuals since some of these contributions are made by clinics with, of course, several physicians represented. Also, the district medical auxiliaries have been very active in recent years in soliciting support for AMA-ERF programs and, of course, many contributors are represented in a single listing. Still for 1963, of 111 listed contributions some 103 were from individuals, or 93% of the total. Secondly, it should be emphasized that the figures for AMA-ERF contributions represent more than South Dakota physicians, but include alumni from throughout the country. For example, for 1963, out of the total 111 contributors, 54 were from out-of-state sources and represent a total figure of $1,172.50. In other words, 57 South Dakota physicians contributed $2,623.29 to the AMA-ERF medical school support program. On the other hand, the number of contributors to the Medical School Endowment Association are virtually one hundred percent state residents for no active campaign has been made among alumni for this particular fund.

CONTRIBUTIONS

Medical School Endowment Association

Year	Number Contributors	Amount	Average Contribution
1960	132	$2,497.50	$18.92
1961	88	1,641.80	18.65
1962	62	2,106.00	33.96
1963	93	1,343.00	14.44

AMA-ERF

Funds for Medical School

Year	Number Contributors	Amount	Average Contribution
1960	157	$6,282.00	$40.01
1961	186	5,576.00	30.00
1962	103	6,304.80	61.21
1963	111	3,795.79	34.19

AMA-ERF

Medical Student Loan Guarantee Program

Year	Number Contributors	Amount	Average Contribution
1963	81	$2,772.00	$34.22

Physicians, either as South Dakota residents or alumni of the school, did contribute, then, $7,910.79 in direct support of the medical school, the medical student loan guarantee program, or the Endowment Association in 1963. However, to equate a more accurate picture of total financial support one must also include $2,615.00 donated by individual physicians or clinics as scholarship awards and a $1,000.00 contribution to the school from a clinic for support of faculty salaries. Physician contributions for 1963 total $11,525.79. In passing, it may be of interest to

note that for the year 1962, out of 46 public or tax supported medical schools in the country, South Dakota ranked 31[1] in terms of physician contributions to the school.

In comparing the figures over the last four years one is impressed with the great variation in number of contributors to the several funds from year to year. There does not appear to be an obvious explanation for this variation for essentially the same mailing program has been followed from year to year. Perhaps of most concern to the medical school is the rather marked reduction in the AMA-ERF funds for the Medical School Support Program. Contributions designated for use by the South Dakota school are down almost one-third from preceding years. In this regard there is the real possibility that physicians contributing once to AMA-ERF and the Student Loan Guarantee Program did erroneously conclude their contributions to the AMA-ERF Medical School Support Program had been met. Thus, adding the total contributions to AMA-ERF for the two funds, medical school support and student loans, one obtains $6,567.79 for 1963 which is an amount that was commonly contributed annually over the past several years to the medical school fund alone.

It is important to observe that the major share of the dollars contributed are going to the direct support of students in contradistinction to the direct support of medical education. For example, out of the total 1963 contributions of $11,525.79, less than half, or 42%, has been directed to the medical school in support of operations. The major share, or about $7,700, has gone directly to the support of medical students through loan and scholarship funds.

Loan funds provided by the Medical School Endowment Association served to meet some part of medical student needs over a period of ten years. It is a credit to the Directors of the Association that assets were made available as a loan fund until the total endowment, or the invested income, had reached such an amount as to make a significant contribution to the direct support of the medical school. The somewhat limited funds in the Association dictated the policy that the average loan be limited to $500. The need for more substantial sums was realized and, in 1962, the first loans from the AMA-ERF Guarantee Loan Fund were made available. We have referred elsewhere (page 30) to the sizable number of loans already processed through this fund.

The 1963 Congress passed legislation establishing a Federal Medical Student Loan Fund. As yet, appropriations have not been made to implement the Fund but these are expected to be forthcoming for the 1965 school year. The Public Health Service has accepted a grant application to make available this Fund at the South Dakota Medical School. Sufficient local monies were recruited which, on a nine to one matching basis, will afford about $53,000 for student loans.

I sincerely hope the introduction of this Federal Loan Program will not have an adverse effect on the continued growth of the AMA-ERF Guarantee Loan Fund. It is perhaps even more important now for the private initiative which created the AMA Loan Fund to not only maintain its expression but even expand. Based on surveys we have made of student financial need and from experience on the University campus with the National Defense Education Act, there is sufficient evidence to permit a prediction that both funds are going to be utilized at ever-increasing levels. Certainly there will be more demand for loans than the Federal program can support, or at least it is likely that more loan requests will be made than the school will be able to provide in the matching funds.

However, in the face of these two rather substantial loan programs, it is pertinent to raise the question as to whether or not there is now the need for loan funds from the Medical School Endowment Association. Reference has previously been made to the importance of these loan funds earlier, that is, prior to the AMA-ERF fund and the forthcoming federal loan program. I think it is reasonable to at least consider the possibility of allocating the interest on the Endowment Association Funds to the medical school for direct support of its teaching operations. This was the purpose for which the fund was

[1]JAMA, Vol. 184 (5), May, 1963, p. 359.

initially established. The suggestion perhaps has more merit now in view of the marked reduction in contributions to the medical school support program of AMA-ERF to which I have previously alluded.

One donation directly to the school deserves special comment. I refer to a thousand dollar contribution made by the Brookings Clinic specifically directed to enhance the salary budget for use in retaining faculty whose contributions to the school are meritorious. Hopefully, this may be a start in the accumulation of funds which could possibly lead to the establishment of an endowed professorship in an important area of teaching and research. The contribution does represent the first direct support of personnel from endowment funds with due recognition of the need to retain competent faculty if the stature and attainments of the school are to be enhanced.

The concept of financing private schools by private donations and endowments is well understood by the public. Conversely, the public is apt to conclude that for the tax-supported schools the budgetary needs are met entirely through appropriations. Actually this is not the case, but rather, even the parent University does and must rely on endowment sources in providing some part of its operating needs. This position is well illustrated by the pattern of donations to medical schools nationally.[1] For the year 1962, out of 46 private schools all received some contributions, with 36 of the 46 receiving fifty thousand dollars or more per year. On the other hand, out of 46 public or tax-supported schools only 10 received fifty thousand or more and 5 schools apparently failed to receive any direct physician contributions.

It is, of course, no secret that the past ten years have witnessed a tremendous increase in the availability of research funds and hence a great expansion of research activity in the medical schools. However, these funds are not available for teaching purposes, salaries (excepting in very limited and defined instances), and general operating expense. This means that if a proper balance is to be maintained between teaching and research, continued attention must be given to a recruitment of funds from all sources in order to maintain and expand the academic program itself. The interested reader is referred to a recent article[2] that addresses itself to this problem in a clear and meaningful manner.

1. Data provided from Assoc. Am. Med. Colleges based on J.A.M.A., Vol. 184 (5), May, 1963, p. 359.
2. Kidd, Charles V. "Private Giving and Federal Aid for Medical Education," J.A.M.A., Vol. 188 (3), April 20, 1964, pp. 223-226.

VIRAL EXANTHEMS—

(Continued from Page 22)

These illnesses are often confused with measles, chicken pox, rubella, roseola, etc. but their appearance in Summer or Fall, the short incubation period and distinct clinical findings should be helpful in arriving at the correct diagnosis.

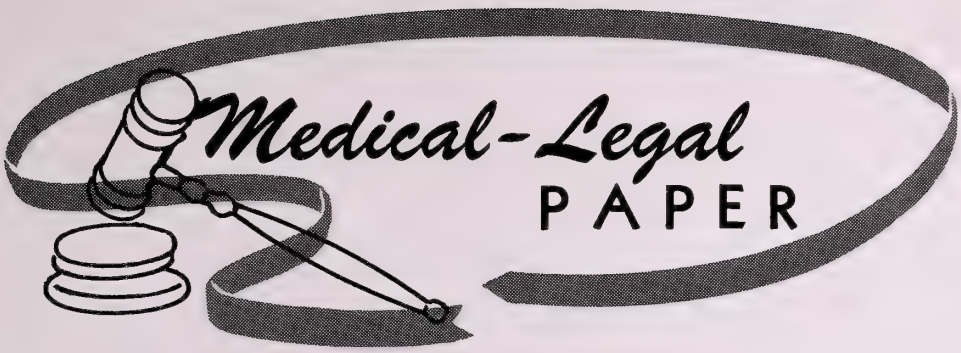
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A Breach of the Bastion — or — Whose Ruler?

By

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Sioux Falls, South Dakota

Recently a most fascinating question was posed to this writer by a diligent scholar of the law. Unknown to most citizens is the fact that under existing South Dakota law an innocent person may be immured without bail and deprived of his liberty on an accusation that he is mentally ill. This incarceration may be on the petition of mental illness by another and potentially can occur despite the fact that the accuser may be more insane than the accused. While this question may be more academic than practical, the potential ramifications thereof are tremendous. The following are the ideas of the lawyer and an eminent psychiatrist, both of whom are dealing daily with the problem which is presented under the existing South Dakota mental health laws. The legal viewpoint is presented by Mead Bailey of Sioux Falls and the psychiatric opinion by Roy C. Knowles, M.D. of Sioux Falls.

THE LEGAL OPINION

Some years ago, the South Dakota Legislature substituted in part of the law of this State the words "mentally ill" and "mental illness" for the words "insane" or "insanity" with the announced intention that the change in phraseology was "so that stigma and shame should not be attached to those committed to, or who are voluntary patients at, the state institutions for the insane and feeble-minded." Another statute says that wherever the phrase "feeble-minded" appears in certain parts of the law there shall be substituted instead "mentally retarded." Unhappily, however, the Legislature did not define or add any new definition to these terms, simply changed the words. Thus under the present law mental aberration (for want of a better term) is referred to as "insane," "any species of insanity or mental derangement," "feeble-minded," "mentally ill," "mental illness," "idiot," or "imbecile." This diversity of terminology needs some yardstick as to what the legal profession, the medical profession, and each of us as members of the body politic, along with our families and friends, are talking about.

Perhaps most pungent is the question: Who decides what is **the intent** of the law? And, while not as apparent but of much greater importance, is the question what happens to what is called "due process of law" in the course of detaining a person to determine the

existence, character, or extent of "mental aberrations."

Although most medical practitioners are unskilled in the law, they are able to read and have had the opportunity for an explanation of the machinery and procedure for dealing with mental aberrations in this state. Following a thoughtful perusal of the law, a careful observer might notice within himself a dubious feeling with regard to the present state of events, an unhappy feeling that we individually may be on dangerous ground.

Title 30 of the South Dakota Code establishes the procedure for arrest (i.e., involuntary detention), confinement, and hearing of a person accused of mental aberration. Confinement upon the accusation of a third person, prior to a hearing, strongly suggests criminal procedure because the liberty of the accused person is restrained. To complicate things, and a matter which should cause concern, there is no provision for "release on bond" for the person so accused and confined pending the hearing. Release on bond is a hard won right and should not be abandoned under any pretext without serious consideration. Allied to this is promptness of the hearing. That is, how long should a person be confined before a hearing is had on his mental condition. This entire matter is a Gordian Knot. The knife that cuts the knot can well guillotine the individual.

It is not the purpose here to quote statutes at length, but an examination of the extensive provisions of SDC 1960 Supp. 30.0107 will reveal the tremendous burden being put upon the County Board of Insanity which consists of the county judge and states attorney who obviously are neither medical men nor psychiatrists and a "reputable practicing physician appointed by the Board of County Commissioners" who is not a lawyer and may not be versed in psychiatry. In its examination this Board hears testimony for and against the application. While the person accused of being "mentally ill" may appear and resist the application, the Board has the power to dispense with his presence. If the accused is too poor to hire a lawyer, then **who** appears at the hearing in his behalf? Every physician should read this law and, SDC 1960 Supp. 30.01A01 and ask at least two questions: In the light of modern psychiatry is there too great a burden being placed upon the members of the Board; and, how public should these hearings be, to protect the rights of an individual, especially if there is the slightest possibility of a conspiracy to confine under these statutes?

Our rights as citizens rest not only upon what is done under a statute but also, and perhaps most important, **what can be done.**

In considering this question the provisions of SDC 1960 Supp. 30.01A01 are, to say the least, fascinating. Under this statute entitled "Providing for Commitment of Mentally Ill, but not Insane," the Legislature set up a procedure whereby one person under oath can make a written statement to the county judge that some other person in his county "who is not charged with a criminal offense, is believed to be mentally ill, and that the welfare of himself and/or others requires that he be placed in a state hospital for the mentally ill for not exceeding 90 days for observation or treatment." If the county judge believes the sworn statement to be true he fixes the day and place for the hearing either at the county courthouse, the residence of the person accused, or any other place in the county he may deem best for the person.

While this statute does not seem to provide for arrest prior to the hearing, the most interesting feature is what is decided at the hearing. A jury can be demanded to hear and determine the question. According to the statute: "The issue shall be determined by the verdict of such jury as to whether such person is **mentally ill and neither feeble-minded, insane, an idiot or an imbecile,** and is such a person as shall be temporarily committed for observation and treatment . . ."

If no jury is demanded then the county court shall "find the fact" and "if he shall find that such person is neither feeble-minded, insane, an idiot or an imbecile, and that he should be temporarily committed for observation or treatment . . . he shall make an order accordingly."

Thus we have a situation where as a matter of fact a person is found **not** to be feeble-minded, **not** to be insane, **not** to be an idiot, and **not** to be an imbecile, yet he still can be salted away, so to speak, for 90 days. Is this good law? Is this commensurate with what **most** lawyers consider "conservative treat-

ment"? Is this procedure commensurate with competent, qualified, psychiatric theory and treatment? The student of the law simply does not know because, obviously, it is outside of his field. Some attorneys question whether the medical profession, as a whole, realizes the state of the law.

In considering this subject it is apparent that a person of note or of means in a community is not necessarily in the same category as the unknown, the poor, the meek, or the oppressed.

These statutes that confine without the right to bail prior to a hearing, that have hearings in the absence of the accused, that permit the confinement when neither feebleminded, insane, an idiot, or an imbecile, that allow binding decisions upon the question by individuals who may or may not have any background in psychiatry or pertinent law appear to leave much to be desired. Anyone giving critical thought to the matter will be impressed by the problem presented.

Both the legal and medical professions must ask: Where is the measuring stick, by whose ruler are we to judge mental aberration? Due process of law is the bastion of the individual and group protection. If it is to be breached for one it can be breached for another and this "other" category includes each of us. If there is to be a measure, then let it be with the precision of the knowledge available to us. The great bastion of the due process of law will fail if the ruler by which we measure is flexible.

THE PSYCHIATRIST'S VIEWPOINT

It is a pleasure to respond to the proposed question. This response is directed, largely, at the last few paragraphs of the previous statement.

I participated in the activities of the committee which worked for a long time on the initial step correcting Title 30. The only thing actually accomplished was the changing of the word "insanity" to "mental illness." Personally, I did not favor this change. At that time it was attempted to get the attorneys to help us but we were unable to do so. We tried to get a committee of the State Bar Association to make the actual revision but to no avail. Paul Burke of Miller, Judge of the Hand County Court was on the committee which did bring about this very minor change of wording. The dangers inherent in a loose wording of "mental illness" were discussed many times by this committee but there was no unanimity of opinion.

From the viewpoint of a psychiatrist, the loose usage of "mental illness" and "mentally ill" is a very dangerous phenomenon of our present society. The danger lies in considering mental illness as something different from normal personality and behavior. In fact mental illness is an exaggeration of what we each consider our normal state.

The ideas expressed in the previous discussion are good in that they bare facts for observation and study. However, study should be very extensive and anyone undertaking it must be prepared to give enough time to make it successful. The biggest obstacle to the successful resolution of this task will lie in the problem of the medical and legal professions coming to peace with each other about their philosophies. Personally, I strongly favor the law remaining as a "protective" device. On the other hand, the law should not be perverted to the extent that it forces the medical profession and, particularly the psychiatrist, to become medical custodians of criminals or legal custodians of the ill. It must be considered that those who are **truly** mentally ill are sick; they are sick in such a way that they cannot protect themselves. The law must provide protection of the individual against the illness which leaves him helpless to defend himself.

Since the subject of mental illness is so nebulous, would it not be better that all decisions concerning the involuntary confinement of the mentally ill be left in the hands of a specially designed Board? However, where is one to find such a Board available to help Judge Burke make decisions in Hand County?

Title 30 as it now functions among people of good will is not badly drawn. Its potential is hazardous but it is not, at the present time, being ill-used. For example: the observation and examination clause which permits a person to be sent to the State Hospital for study is a very useful and not ill-used portion. This particular part of Title 30 permits a Board to ask for a study, not to exceed 90 days, of a

person who is not obviously psychotic but whose behavior is such as to have caused desperate concern to his family, his friends, his general society or to himself. He may not have been able to use his own judgment well enough to commit himself for study. This study may actually be only two or three days. The staff of the State Hospital are free to discharge the person at any time in the 90 day period if they feel that all questions are answered and that the answers indicate the man does not need further hospitalization. If he needs extensive hospitalization, the staff must justify this decision. It is possible for a person to be sent to the State Hospital for a short interval of study, only to find that he didn't need it in the first place. However, if someone's behavior has been bizarre enough to justify such a procedure, he, himself, will have precipitated the study.

Title 30 needs revision. At the present time it is functioning well simply because of the cooperative efforts of county judges, states attorneys, and medical authorities as well as the staff of the State Hospital. If Title 30 is to be changed, clarified and strengthened, it should be done by mutual cooperation of the ones who are burdened with the task of legal interpretation and those saddled with the task of caring for these illnesses.

The use of terms such as "feeble minded," "insanity" and "mentally ill" synonymously within the same law shows that it is quite necessary to rectify Title 30. "Feeble minded" is a term which is attached to a retarded person but which is no longer used. Retardation is not a mental illness except in very specific and rare instances. Mental retardation and mental illness are separate entities and are handled by different Boards.

"Our rights as citizens rest not only upon what is done under a statute but also — and perhaps most important—**what can be done.**" With this I agree.

At the present time there is a movement to develop a State-wide program of planning for the needs of South Dakota. One of the needs is to have the law clarified and strengthened. A revision of Title 30, as well as the subject of confinement of criminals at State Hospital under trumped-up charges of mental illness, requires the active participation of the Bar Association and individual attorneys as well as the medical profession.

Editorial Thought

It is to be hoped that the members of the South Dakota State Medical Association and the South Dakota Bar Association will interest themselves in this matter, and give it thought. There are four links in the chain which supports this bastion: the law itself; the county judge; the states attorney; and the practicing physician. Any chain is only as strong as its weakest link.

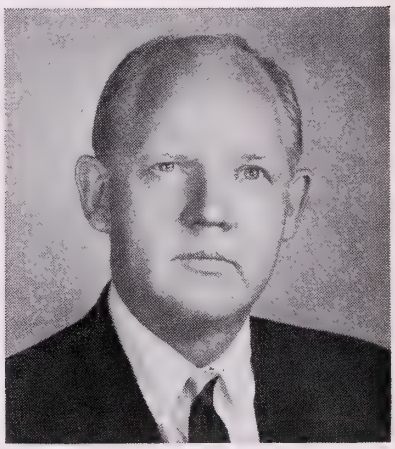
PHYSICIAN GIVING

In reference to the article by Dean Hard in this issue of the Journal, entitled "Physician Giving," the final totals on student loans for the 1963-1964 school year are now available. A total of 48 individual students, out of class enrollments of 89, borrowed a total of $43,-500, for an average loan of slightly over $900 each. Twenty-three students borrowed a total of $27,000 from the AMA-ERF loan fund. A like number (23) borrowed $15,550 from the Medical School Endowment Fund, and 4 students were loaned $950 from the National Defense Education Act, operated by the University.

It is interesting to note that the amount borrowed from the AMA-ERF is slightly below the amount available through contributions of South Dakota physicians. Thus, $2,772.00 was contributed to AMA-ERF in 1963. Each dollar guarantees $12.50 by the participating banks making a total loan fund of $34,650 available. This is not apportioned by states, of course, but it does illustrate that for this year at least, the contributions did accommodate the amount of loan requests made by the South Dakota students.

NEEDED — General Physician—Family Internist by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range $14,000-$18,000 depending on qualifications. Box A3, S. D. Journal of Medicine, 711 N. Lake Ave., Sioux Falls, S. D.

PRESIDENT'S PAGE



I would like to make a plea for your active participation in the political arena during the current presidential and local election campaigns. While I am strongly in favor of SoDaPak, I am sure there are those in the State who do not agree with its method of function or perhaps some of its aims. However, this should not in any way relieve you of your responsibility as citizens and as leaders in your community to take an active part in the campaign.

I am sure you have read articles, held conversations and thought about the philosophy of our democracy and, in particular, about the fact that there are a great many people voting who not only do not understand the issues involved, but do not perhaps even know the candidates. Philosophically, this may be right or wrong, but if you feel as many of us do that this is wrong, then it is part of your duty to see that these people are educated and do understand the issues at stake and know about the individuals involved. There is justification for the belief that given an honest presentation of all of the facts, the majority of the people will come to a logical and reasonable conclusion. This logical explanation of the facts and issues, with complete fairness to both sides, is always difficult in the heat of a political campaign, but does not lessen our responsibility to make the effort.

As I have mentioned before to some groups, the American public could care less about the economics of the practice of medicine as it relates directly to the doctor, since they think we all make too much money anyway. However, they are deeply concerned with taxation, some of the moral issues involved and the ultimate result upon their pocketbooks and the economy. These are the matters which we should discuss with our friends, our patients and our neighbors; striving to maintain a calm and reasonable attitude, as difficult as it may be, in the heat of a political campaign.

Survey figures indicate that although organized medicine may have lost favor and stature in the public eye, the individual doctor in his community still ranks high in its esteem among the various professions and occupations. It is, therefore, logical to expect that when the local physician speaks on a local level and about local problems and general philosophy, he will be listened to with a certain amount of attention. Therefore, again let me make the plea that you become interested in the political party of your belief, that you try to analyze and explain the issues involved and the candidates to as many people as possible, and that you support the principle of the free democratic election with both your energies and your pocketbook.

Fraternally,

James P. Steele, M.D.

President

CORRECTION ! ! !

The Commission on Communication was incorrectly listed in the August issue of the Journal. It should read as follows:

COMMISSION ON COMMUNICATION — Covering Radio and TV, Press Relations, Public Relations, Publications, Physicians Placement Service.

1. C. L. Vogele, M.D., Chairman
2. R. E. Van Demark, M.D.
3. R. E. Dean, M.D.
4. Ted Wrage, M.D.
5. C. A. Johnson, M.D.
6. Hugo Andre, M.D.
7. R. R. Giebink, M.D.
8. B. F. King, M.D.
9. B. O. Lindbloom, M.D.
10. H. J. Grau, M.D.
11. L. K. Cowan, M.D.
12. H. H. Brauer, M.D.

OB-GYN BOARD NOTICE

The next scheduled Part I (written) examination of this Board will be held at various examining centers in the United States, Canada, and military bases outside the continental United States on Friday, December 11, 1964 at 2:00 P.M. Candidates eligible to take this examination will be notified on or about November the first where to appear for examination.

SPECIAL NOTICE

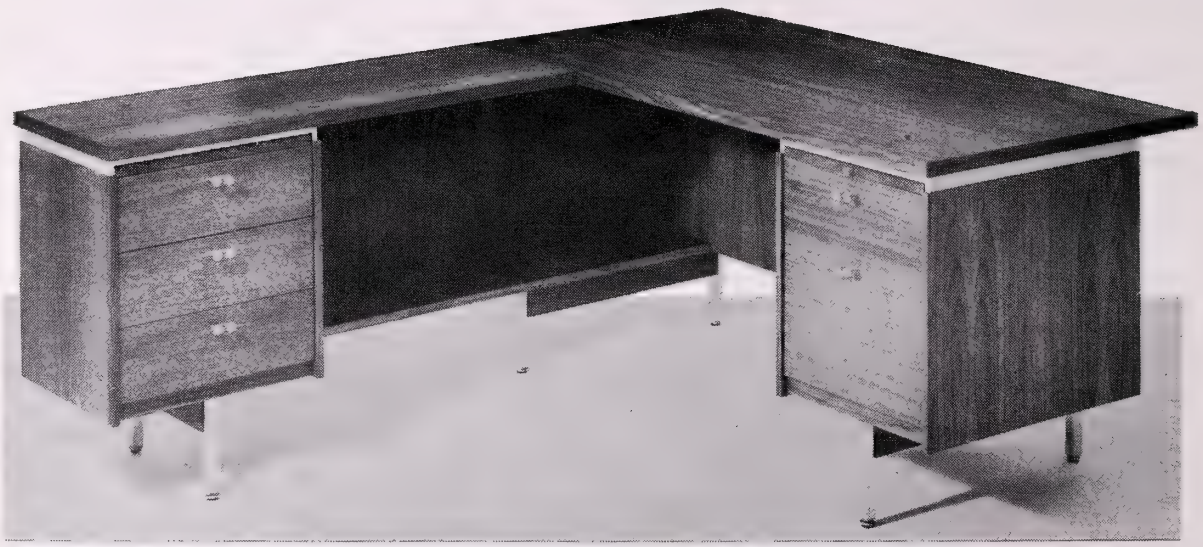
Beginning in 1965, the Part I (written) examination will be given early in July. All candidates (including new and re-opened applicants as well as re-examinees) having completed an approved and progressive residency program on or before July, 1965 will be eligible to request admission to the Part I examination in 1965.

The 1964 Bulletin containing detailed information on the requirements and procedure of application relative to the new schedule of examinations beginning in 1965 is now available for mail distribution.

Bulletins may be obtained by writing to the office of the Secretary, — Clyde L. Randall, M.D., American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216.

Diplomates of this Board are requested to inform the Secretary's office of any change in address.

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Postgraduate Medical Programs

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November 6, 7, 1964

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School of Medicine, University of South Dakota
Vermillion, South Dakota

Guest Speaker
Robert L. Grissom, M.D.
Professor and Chairman
Department of Internal Medicine
University of Nebraska College of Medicine

FRIDAY, NOVEMBER 6

Morning Session

8:00—Registration. Medical Science Building
9:00—Introduction and Welcome
Dr. George W. Knabe, Jr.
9:15—"The Ultrastructure of Cardiac Musculature"
Dr. Earl B. Scott
10:00—Intermission
10:15—"Anatomy of the Heart"
Dr. George C. Rinker
11:00—"Ventricular Arrhythmias"
Dr. Willard O. Read
11:30—"Origin and Fate of Serum Glutamic-oxalacetic Transaminase (SGOT)"
Dr. Jerry B. Critz
12:30—Buffet Luncheon — University Campus

Afternoon Session

1:30—"Nutrition, Cholesterol and Atherosclerosis"
Dr. T. A. Anderson
2:15—"How Simple, and Yet Complex, are Heart Sounds"
Dr. Robert L. Grissom
3:00—Intermission
3:15—"Gross and Microscopic Pathology of Heart Disease; Demonstration and Laboratory"
Dr. George W. Knabe,
Dr. Stanley H. Nordmo

Evening

6:30—Social Hour and Dinner
The Prairie, Vermillion
8:00—"Contributions by Relatively Unspecialized Students and Physicians to the Understanding of the Heart"
Dr. Robert L. Grissom

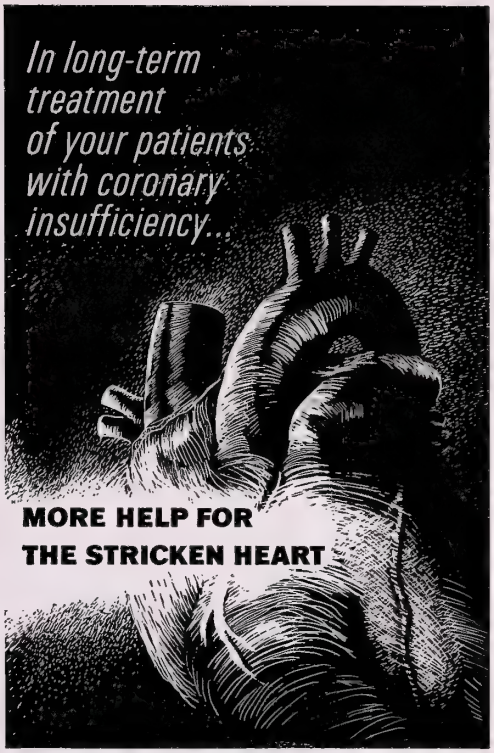
SATURDAY, NOVEMBER 7

Morning Session

8:30—"The Coronary Blood Flow"
Dr. William F. Geber
9:15—"The Chemistry of Heart Failure"
Dr. Joseph D. Welty
10:00—"Action of Normal and Abnormal Heart Valves"
Film Demonstration and Discussion
Medical Faculty
10:30—Intermission
10:45—"The Response of the Myocardium to Drugs"
Dr. Joseph N. Spencer
11:30—"Electrolyte Alterations in Cardiac Disorders"
Dr. Edwin H. Shaw
12:15—Adjournment
Ten hours of AAGP credit will be given for the course

Afternoon

2:00—University Football — Inman Stadium
University of South Dakota vs. State College of Iowa



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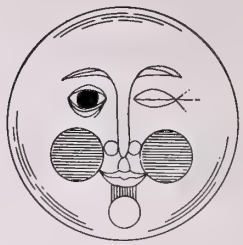
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DON'T MISS THE WINTER'S BIGGEST MEDICAL MEETING



GARY OMODT, PH.D.
EDITOR
College of Pharmacy
South Dakota State University
Brookings, South Dakota



DENTISTS CAN WRITE PRESCRIPTIONS*

by

Marvin Sniderman**

I would like to dedicate this lecture to the memory of my former teacher and friend — Dr. Stephen Wilson.

> "How I can make a patient vomit, and how I can purge or sweat him, are matters which a druggist's shop-boy can tell me offhand. When, however, I must use some sort of medicine in preference to another, requires an informant of a different kind — a man who has no little practice in the arena of his profession."
>
> Sir Thomas Sydenham
> (1624-1689)

Dental disease is the most common disease that afflicts mankind. It is estimated that 98% of the people of the civilized world have dental disease in one form or another during their lifetimes. One of the major distinguishing features of dental disease is that it never corrects itself — a dentist must intervene with dental treatment or the defect will continue with ultimate loss of the dental apparatus. The aim of dentistry which as a separate profession is little more than a century old, is to preserve and restore the natural dentition — for a lifetime — when possible, and to control the position and appearance of the face; the dentist is concerned with maintenance of lifetime healthy teeth.

With the mouth and teeth, one expresses all emotions: joy, suffering, pain, laughter; one kisses, eats, talks, smiles, and cries; one reveals fear and anger; one's entire personality is demonstrated by one's dental apparatus in relation to the balance of the face.

The dentist concerns himself with esthetics, form, and function. He controls and treats oral infection thus contributing to a longer, healthier, and happier life for his patient. His work is most valuable when he prevents or cures one of the most common pains known to mankind — toothache. One of the major disciplines in dentistry is the use of drugs as adjuncts to more successful dental treatment.

With the proper use of drugs, the dentist can lessen apprehension, tension, and fear on the part of his patient; he should not be content only with eliminating pain in the area of the operative field. The dentist who does not take into consideration the emotional attitude of the patient before, during, and following treatment, and does not attempt to intelligently use all the tools and aids available to him to make the dental experience as pleasant as possible, is not pro-

*Presented at the Eleventh Annual Joint Pharmacy Seminar, Wayne State University, College of Pharmacy, Detroit, Michigan, February 25, 1964.

**B.S. Pharm., D.D.S., F.A.C.D., F.A.G.D., Clinical Instructor, School of Dentistry, University of Pittsburgh.

viding total or adequate dental care for his patients.

Many dental practitioners have failed to make maximum use of drugs due to lack of information on the properties, dosages, and modes of administration. The proper utilization of drugs is a necessary and valuable adjunct to the successful practice of dentistry. Writing a prescription for the dental patient should be as much a part of the dentist's armamentarium as his knowledge and application of the drugs that he uses locally.

There are several obvious reasons why the writing of prescriptions is resisted by many dental practitioners. First, the fear of not being able to express his intentions correctly; second, an anxiety concerning his ability to make a satisfactory combination of drugs; and third, a distrust in his ability to write the prescription properly, which might make him subject to the criticism of the pharmacist. However, there are so many advantages to be gained in the knowledge and use of prescription writing, that every dentist should learn the few basic rules and use them so that he can provide a more complete service for his patients.

The 1962 Survey of Dental Practice conducted by the Bureau of Economic Research and Statistics of the American Dental Association shows some very interesting results: In reply to the question "Have you written any prescriptions for drugs within the last six months?", 88.6 per cent of the self-employed dentists answered "yes." This figure varied with age of dentist from 96.9 per cent of dentists under 30 to 53.5 per cent of those 70 and older. Although the percentage of dentists answering this question affirmatively was not significantly different from the figure in the 1959 survey, the average number of prescriptions written had risen considerably during the three-year period. For all nonsalaried dentists, the mean number of prescriptions written during a six-month period was 82.8 in the current survey, compared to 67.0 during a similar period three years earlier.

As in previous surveys, dentists in the Southeast and the Southwest reported writing many more prescriptions than dentists in other regions. Dentists in these two regions averaged nearly twice as many prescriptions as dentists in the Central and Middle East regions.

Dentists in the smallest towns wrote the fewest prescriptions, but dentists in cities of over 1,000,000 were also well below the national average. The average number of prescriptions written was greatest in cities of 50,000 to 100,000 population. Among the largest cities, Chicago dentists reported the lowest average number of prescriptions written (48.4); the averages for New York (58.6) and Philadelphia (57.5) were also quite low. You will be most delighted to learn that dentists in Detroit averaged 89.8 — the highest of all the large cities surveyed.

It is estimated that nonsalaried dentists in the United States wrote 14 million prescriptions for drugs during 1961.

In addition, one of the recommendations of the **Survey of Dentistry,** published in 1961 was that: "there be an expansion of facilities for the evaluation and standardization of pharmaceutical preparations used in the treatment of dental disease."

Even in this age of high speed and ultra speed in dentistry, the need to write prescriptions has not changed. There has been such a steady parade of new drugs that learning enough about them to attempt to evaluate their relative therapeutic merits is almost an impossible task. They often appear on the market almost too quickly to permit learning their names, to say nothing of distinguishing which are the same drugs with different trade names. For example, meprobamate, trademarked as "Equanil" by Wyeth Laboratories is "Miltown" by Wallace Laboratories.

Every day, the dental practitioner must decide which of the drugs available or suggested for a particular purpose will be the best one to use for his patient. It is his obligation to make this decision, but in so doing he must be aware of the prejudiced advice served to him by the drug manufacturers. The selection of a drug determines whether the patient will receive the best therapy, but the manufacturers, unfortunately, will tell the practitioner little besides the superiority of their products.

Daily, practitioners — medical, of course, more than dental — are bombarded through the mail with a great deal of attractive, readable, and interesting literature. Reading this

literature, the practitioners will find that reports on new drugs tend to be positive, the uses emphasized, and the limitations minimized. Quite often, however, first hopes are not always borne out by later results. Most therapeutic agents need time and experience for final evaluation; it is very uncommon that a drug like penicillin is established from the very beginning as both extremely useful and relatively safe. The dentist should practice conservatism and skepticism below the pugnacious level.

The problem of "which drug" can be exemplified by a comparison of trade name prescription drugs available today with those available ten years ago.

The dosage of drugs will vary with each individual. It is rather obvious that the 110 pound housewife should receive less of a drug than the 225 pound millworker. With the child, Young's Rule can apply.

Potency, curve of action, characteristics of absorption, and elimination, all play a decisive role in determining where a drug may be used, and in the end, whether, despite desirable pharmacologic actions, it can be used well, or used at all.

The potency of a drug, which is the amount by weight necessary to produce a pharmacologic effect, is of obvious practical importance, since it determines the amount necessary to produce a therapeutic response. In some instances, however, the potency of drugs as expressed in the literature is truly misleading. For example, there are barbiturates for which the average hypnotic dose is appreciably smaller than the usual barbiturate (less than the common capsule containing 100 mg. or 1½ grains). Such a barbiturate has been advertised as being safer than others, of which more has to be used for a similar effect. The implication here is that the smaller dose is less likely to cause difficulties. On the other hand, less potent barbiturates which require more drug per hypnotic dose than usual have been advertised as being preferable because a larger than usual amount is required for toxic effects. The implication here is that difficulties are not so likely to be encountered because a larger amount is necessary to cause toxicity. Obviously both arguments cannot be correct, but what is more important, both are wrong. The relative difference in therapeutic ratio is more important than relative potency. The therapeutic ratio is the physical amount of drug which will produce a pharmacodynamic effect in relation to the amount of the same drug which will produce untoward effects under the same circumstances. The therapeutic ratio is the relationship between therapeutic and toxic potency.

Prescribing an improper dosage with the proper drug is commonly the reason for therapeutic failure. Token effects of drugs are useless. Dosage may be insufficient due to the practitioner's timidity or the patient's tolerance, excessive through the practitioner's exuberance or the patient's sensitivity. Dosage depends upon potency, toxicity, urgency of the condition, and the influence of the patient's disease in reacting to or eliminating the drug. The dose which may be used implies a consideration of the amount necessary to produce a useful therapeutic effect in the face of the danger of producing untoward effects.

The average dose is a term which would ordinarily mean an arithmetic average of all doses given. It is, however, the dose given the average patient. It usually signifies the safe dose to start the medication and is calculated to induce a relatively low incidence of untoward effects.

The practicing dentist can gain a great deal of current knowledge by purchase of **Accepted Dental Remedies** which is published annually by the Council on Dental Therapeutics of the American Dental Association.

Evaluation of drugs and other therapeutic agents by the Council on Dental Therapeutics is one of numerous services which the Association provides for dentistry; it is directed to "study, evaluate, and disseminate information with regard to dental therapeutic agents, their adjuncts and dental cosmetic agents, which are offered to the public or to the profession."

Therapeutic products that are commercially available are classified in Groups A, B, C, and D. Group A consists of products which meet all of the scientific labeling and advertising standards established by the Council. These products may use the Council's Seal of Acceptance unless special circum-

stances indicate that this is contrary to the public or professional interest.

Group B consists of products which, because of their relative newness, lack sufficient evidence for regular listing in **Accepted Dental Remedies** but for which there is good evidence of usefulness and safety. It is the Council's policy to reconsider Group B products each year on the basis of new evidence which may be produced for their support. Classification in this category is not ordinarily continued for more than three years.

Group C consists of products for which the evidence is so limited or inconclusive that the products cannot be accurately evaluated.

Group D consists of products which are unacceptable because of their demonstrated inability to meet the standards outlined.

Of all the indications for a dentist to write prescriptions, those for post-operative pain would be the most frequent. The most common method employed is that of the systemic administration of analgesics. Analgesics, by definition, include the drugs which, through their action on the nervous system, reduce or abolish suffering from pain without producing unconsciousness.

The interest of the dentist in pain prevention dates back to the time when Horace Wells, in 1844, discovered the use of general anesthesia. Current pain control methods include the use of local anesthetic agents, topical anesthetics, newer operative procedures including the use of tungsten carbide burs and diamond instruments, water spray, high speed rotational instruments, chemotherapeutic sedatives, hypnotics and tranquilizers, a psychological approach, hypnosis, and the use of general anesthetics.

The dental profession has, from its early beginning, contributed greatly to the relief of pain, and to the relief from pain during dental procedures. However, after the patient leaves the dental office, and often for some time after, the patient may experience a great deal of mental anguish because a well-meaning dentist has instructed him to "take some aspirins" if he has any pain. It is here that the dental profession has failed to meet the obligations of creating a pain-free state.

Individuals who are stable and who have a history of well-tolerated medical or dental experience make wonderful patients, but those who are maladjusted, apprehensive, physically or mentally unable to cope with situations that arise, present the greatest problems. Ideally, we are searching for a sedative that will produce calmness without anxiety coupled with the ability to tolerate some pain without a violent reaction. Ideal sedatives should adequately reduce preoperative psychic tension without concomitant depression of respiration and circulation. An ideal drug would be a true sedative, a muscle relaxant, an anti-sialagogue, and an anticonvulsant all together.

How to manage the patient who is experiencing pain remains a difficult clinical problem which confronts every practitioner. The existence of pain and the possibilities for its management probably constitute the most ancient reasons for the existence of the doctor of medicine and doctor of dentistry, for pain is as old as mankind. The monumental achievements of modern medicine and dentistry during the last 25 years have made it possible to prevent or eliminate a great deal of suffering. The great strides taken by all branches of surgery and anesthesia have made it possible to remove the cause of the pain or to interrupt its pathways in circumstances which previously precluded surgical intervention. Moreover, the development of many systemic analgesics, local and general anesthetics, and other agents, have provided practitioners with a huge arsenal of pain-relieving drugs that are useful and safe.

Each practitioner has certain "favorites" in the drugs he uses, and in which he finds particular benefits. The more times he uses these drugs, the better he is able to evaluate their effectiveness.

I will give you the benefit of my experience with a dozen or so prescription forms that have been used for many years to good advantage in the general practice of dentistry.

When selecting the type of analgesic to be used, the quality and intensity of pain are among the most important considerations. Mild pain can be adequately controlled with non-addictive analgesics. Opiates and "opioids" are used when the anticipated pain will be more severe.

Clinically, the value of combinations of drugs to provide a potentiated therapeutic effect has been appreciated for many years. The exact mechanisms for potentiation are not clear, however pain itself is a complex response to a number of physiologic and psychologic derangements.

In prescription **A,** you will see the formula for what is commonly known as APC, PAC, or aspirin compound. This can be found as such or in various trade products under different names such as ASA Compound, Empirin Compound, or Sal-Fayne in pink capsules. The psychological effect of saying to the patient "Here is a prescription that will relieve any pain or discomfort you may have" is very important and will do the patient infinitely more good than saying to him "Get a bottle of aspirin compound tablets and take one every three hours or so if you have any pain." Prescription A could be used, for example, when a patient presents with Vincent's infection; on following the extraction of one or two teeth, in which little difficulty has been experienced; or perhaps when there is mild discomfort accompanying a pericoronitis.

In prescription **B** we have combined the ingredients of prescription A with codeine sulfate and this now becomes a narcotic prescription, to be used when more than moderate pain is expected. The amount of codeine in the regularly-prepared tablets usually found is ⅛, ¼, ½, and 1 grain respectively. This can be varied depending on the severity of pain anticipated. Prescription B can be used when several teeth have been extracted, or when more severe pain is expected — such as follows the insertion of an immediate denture.

In prescription **C,** we have a proprietary formula of a synthetic narcotic for very extensive pain. Its use is indicated for the most severe type of pain.

Prescription **D** is a proprietary formula for a prescription that provides analgesic action and is especially helpful when the patient is allergic to codeine.

1. For Post-operative Pain

A—
Rx
Acid Acetylsal ..... gr. iiiss
Acetophenetidin ..... gr. iiss
Caffeine Cit. ..... gr. ss
Mitte tales caps. 15
Sig. Cap. one (1) q. 4 hrs. p.r.n. pain

B—
Rx
A.S.A. Comp. c Cod. gr. ½*
Tabs. No. XII
S. Tab. one (1) q. 4 hrs. for pain as necessary
*Acid Acetylsal ..... gr. iiiss
Acetophenetidin ..... gr. iiss
Caffeine Cit. ..... gr. ss
Codeine Phosphate ..... gr. ss

C—
Rx
Percodan* Tabs. No. XII
S. Tab. one (1) q. 4 hrs. p.r.n. pain
*Dihydrohydroxycodeinone HCl 4.50 mg.
Dihydrohydroxycodeinone Terephthalate ..... 0.38 mg.
Homatropine Terephthalate ..... 0.38 gm.
Acetylsalicylic Acid ..... 224.00 mg.
Acetophenetidin ..... 160.00 mg.
Caffeine ..... 32.00 mg.

D—
Rx
Darvon Compound-65*
M.T.D. No. XV
Sig. Cap. i q. 4 hrs. for pain following dental procedures
*Darvon (dextro propoxyphene) .65 mg.
Acetylsalicylic Acid ..... 227 mg.
Acetophenetidin ..... 162 mg.
Caffeine ..... 32 mg.

Next in frequency of use are those prescriptions written for pre-operative sedation. The literature is replete with monographs that tell of the benefits of sedation before dental procedures. In every surgical procedure, and in most operative procedures lasting one hour or more, the patient will be more cooperative, relaxed and comfortable if a pre-operative sedative is prescribed. In all four of the following prescriptions, the patient will be able to come in the office alone, and will be able to leave without being accompanied by another person. In the examples, prescription **A** is a combination of drugs that will give analgesic action with only a mild degree of sedation. Hexobarbital is an ultra-short-acting barbiturate

and in this combination is not sufficient to produce sleep. It may also be mentioned that when combining a barbiturate with aspirin, we get a narcotic-like effect.

In prescription **B**, we have a tranquilizing drug. Before prolonged use of these drugs, it is my personal feeling that it is wise to consult with the patient's physician. The barbiturates, and other sedatives, especially those exhibiting weak depressant properties, as well as the more potent sedatives can be used to relax the patient. Several chemically-unrelated agents exhibiting tranquilizing action are available. There are now more than three dozen drugs recommended and being used as tranquilizers.

Of the tranquilizing drugs available, by far the safest ones for dental use would appear to be the propanediols and butanediols. These include phenaglycodol (Ultran) and meprobamate (Equanil, Miltown), and are useful in the treatment of the anxious, tense, neurotic patient who has no psychosis. Some relief of muscle spasm and its attendant pain syndrome is afforded by these agents.

Combining these drugs with an analgesic such as aspirin or aspirin compound can be considered when the barbiturate-aspirin compound combinations are not effective. Note prescription **C.**

The use of these prescriptions will generally result in a much more cooperative patient if one dose is taken at bedtime, "to assure a good night's sleep" and one dose an hour before the dental appointment.

In prescription **D** we have a combination of phenobarbital, ¼ grain, along with aspirin, phenacetin, and hyoscyamine sulfate. This is a particularly good combination of drugs used as a pre-operative sedative.

2. For Pre-operative Sedation

A—
Rx
Dilone*
M. Tales Tabs. No. XV
S. Tab. i one hr. before dental appointment

*Hexobarbital	50 mg.
Aspirin	224 mg.
Phenacetin	160 mg.
Caffeine	32 mg.

B—
Rx
Tab. Equanil* 400 mg.
Mitte tales No. X
S. Tab. i one hr. before dental appointment
*Meprobamate

C—
Rx
Equagesic*
Tabs. No. XV
Sig. Tabs. i at bedtime and tabs. i one hr. before dental appointment

*Meprobamate	150 mg.
Ethoheptazine Citrate	75 mg.
Acetylsalicylic Acid	250 mg.

D—
Rx
Caps. Phenaphen*
M.T.D. No. XV
S. Tab. i at bedtime and tab. i one hr. before dental appointment

*Acetophenetidin	194.0 mg.
Acetylsalicylic acid	162.0 mg.
Phenobarbital	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

There are occasional indications for a dentist to prescribe drugs to aid the patient in falling asleep. During periods of adjustments to dental treatment, and or new prosthetic devices, these aids are indicated. One of the barbiturates can be used. The following combination of drugs occurs as such and as a "half-strength" dose.

3. Sedative-hypnotic
Rx
Carbrital* Caps.
M.T.D. ♯X
Sig. Caps i. h. s. for sleep

*Pentobarbital Sodium	gr. iss
Carbronal	gr. iv

Prescriptions to control salivation are often indicated. In the patient who exhibits excessive salivation and for whom restorations in the lower jaw are to be done, the use of this type of medication may produce a more successful result. In order to achieve the best results, it is advisable to prescribe the tablets to be taken four hours and one hour before the anticipated appointment. Administering the drug immediately before operative procedures generally won't produce a sufficiently good result. Methantheline (Banthine) seems to give moderate to full effects

lasting as long as 3 to 6 hours after administration, and seems to work better than atropine and other synthetic anticholinergic drugs.

In the case of atropine, for example, the drug does not merely reduce the volume of saliva and leave its character the same nature it was originally, but rather depresses the serous component of the saliva to a far greater extent than it would depress the flow of the mucous component of the saliva — at least with the usual dose given. As a result, in a mouth that has a lesser amount of saliva but a ropy saliva, the saliva might wrap around the rotary cutting instruments such as cotton would. So we have as an end result working conditions that are less satisfactory than before the drug was given.

4. To Control Salivation

Rx
Banthine* Tabs. ..... 50 mg.
M.T.D. No. X
S. Tab. i 4 hrs. and i hr. before dental appointment
*Methantheline Bromide

It is not my intent to go to great lengths in this paper concerning the indications, contraindications, dosage form, etc., of the antibiotic drugs. But in the practice of dentistry, the oral antibiotic has become a boon to the treatment of infections of the oral cavity.

In the truly dental need for the antibiotics, we can use good professional judgment and prescribe the drugs, of course questioning the patient as to previous reaction or sensitivity to the drugs. Where a cardiac lesion exists, however, or there is a history of rheumatic fever and the need for the antibiotic is determined, a good professional liaison is established by consulting the physician and requesting his preference in drug for the patient.

Penicillin remains the most effective drug for the treatment of infections of the oral cavity. Erythromycin, however, closely resembles penicillin in its anti-bacterial action and is indicated for infections produced by organisms which have become resistant to penicillin, and in patients who are allergic to penicillin. An example is prescription number **6** or the broad spectrum antibiotic such as we have in prescription number **7.**

5. Vincent's Infection, Cellulitis, Abscesses, History of Cardiac Lesion

Rx
Penicillin-V Tabs ..... 250 mg.
Tabs. No. XII
S. Tab. i q. 8 h.

6. Oral Infections

Rx
Erythrocin* ..... 250 mg.
M.T.D. No. XII
S. One capsule every six hours
*Erythromycin Stearate

7. Broad Spectrum Antibiotic

Rx
Mysteclin-F* ..... 250 mg.
Caps. No. XII
S. Two caps. at once, then one cap. q. 6 h.
*Phosphate Potentiated
Tetracycline ..... 250 mg.
Amphotericin B (Fungizone) ..... 50 mg.

Antibiotics should be prescribed to be taken at intervals of hours rather than designating "three or four times a day." By prescribing antibiotics to be taken "every so many hours" adequate blood levels are maintained.



It is not good practice to use antibiotic troches, unless they contain the type of antibiotics that would never be used systemically such as bacitracin, neomycin, and polymyxin B. If antibiotics are indicated, they should be used systemically and for a sufficient period to exert the desired action without risk of sensitizing the patient.

Deeply-seated organisms are best approached systemically. It is dangerous to rely on local medication alone in the treatment of severe infections. Inadequate dosage and indiscriminate use of topical antibiotic compounds in the treatment of infectious disease can breed resistant bacterial strains.

As dentists, we are not called upon to treat allergies as such. In many cases, however, the use of the antihistamine drugs is indicated from time to time. The acutely sore mouth, as a result of allergy to a dentifrice, is seen occasionally and the following is the type of prescription that could be used.

8. Allergic Reaction

Rx
Chlor-Trimeton* ..... 4 mg.
Tabs. No. X
S. Tab. i. q. 6 hrs.
*Chlorprophenpyridamine Maleate

As to vitamin therapy, it is a rare instance when a true vitamin deficiency can be diagnosed by visual inspection. There are cases, however, where we may feel that the patient would be helped by doses of vitamins that will supplement an otherwise "poor" diet. The college student away from home, or the young working man or woman who does not live at home, is possibly more in need of this type of supplemental therapy.

9. Gingivitis, Periodontitis

Rx
Acid Ascorbic ..... 250 mg.
M.T.D. Tabs. No. C
S. Tab. one (1) t.i.d.a.c.

10. Multivitamin

Rx
Vi-Magna* Capsules
Caps. No. C
S. Cap i daily
*Hexavitamin Capsules, N.F.

The next prescription is one for an antiseptic mouthwash. Here, for the first time, we have a mouthwash that is truly antiseptic. It owes its action to a low surface tension and the ability to penetrate the crevices of the tissues and then release active oxygen and chlorine. Clinically, I find it most effective. It comes supplied with a small measuring cup and it is wise to demonstrate to the patient just how it is to be used. For a mouthwash to be effective, long contact with the tissues is most important — preferably one minute rinsings should be accomplished several times daily. Kasdenol is effective in the treatment of Vincent's infection, or in any other condition which will benefit from an antiseptic mouthwash. It is particularly helpful in the treatment of aphthous or herpetic stomatitis, commonly known as "canker sores."

11. Antiseptic Mouthwash

Rx
Kasdenol* ..... 10 Gm. Bottle
S. Use as directed four times daily
*Clorpactin — WES 60

Another drug that is very effective in the topical treatment of acute and chronic lesions of the oral mucosa is a combination of a highly effective anti-inflammatory agent with a soothing adhesive emollient paste. The paste, Orabase, adheres to moist oral tissues allowing sustained action of the anti-inflammatory drug.

12. Topical Anti-inflammatory Ointment

Rx
Kenalog in Orabase* ..... 5 Gm. tube
S. Apply q.i.d. following mouth rinse
*Triamcinolone Acetonide in Emollient Dental Paste

An absolute contraindication to the use of glucocorticoids is the presence of infection which cannot be controlled by chemotherapeutic agents; however this contraindication does not seem to apply to so-called herpetic stomatitis. Indiscriminate use of corticosteroids by dentists, except for topical application to control sensitivity of the teeth, and for local treatment of certain gingival lesions, is not to be condoned.

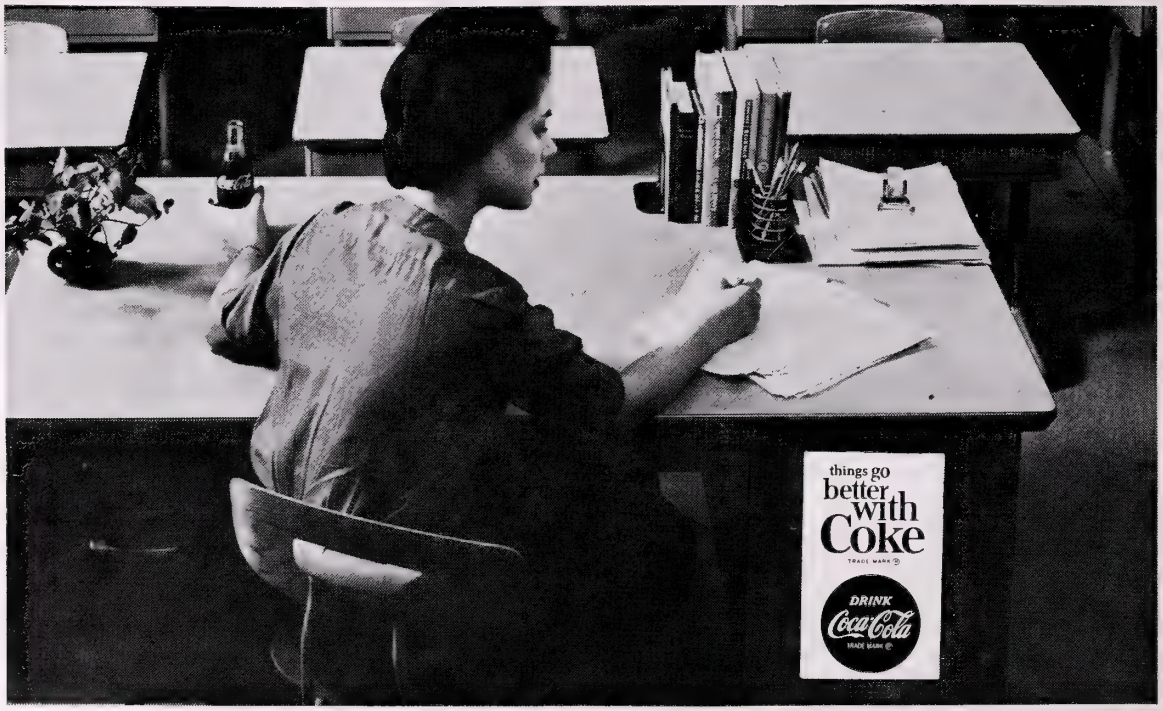
I have not discussed prescribing supplements of dietary fluorides since this would open another field of discussion, but I should like to emphasize that prescribing fluoride supplements is not a real substitute for community fluoridation programs. Fluoridation is a classic example of a public health procedure since it serves the entire population,

requires no conscious or sustained effort on the part of the individuals within the community and automatically restricts individual consumption of the fluoride supplements to levels that have been proven safe.

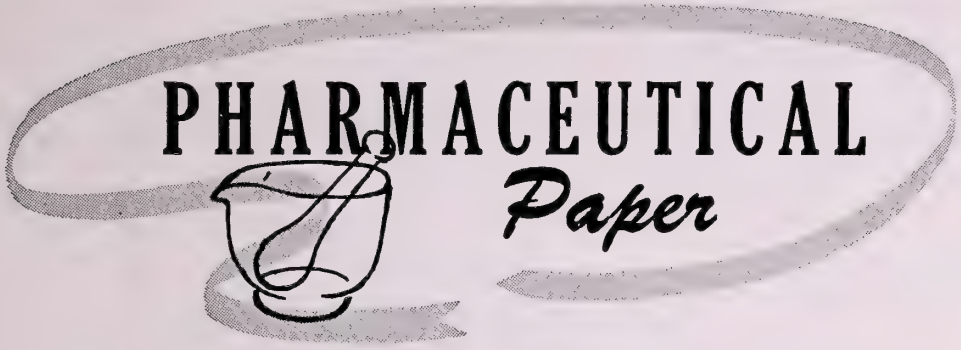
In closing, I should like to read to you a statement that I make to all dental audiences when I lecture on Dental Pharmacology and Prescription Writing, both at dental meetings and when lecturing to dental students:

In many states, the prescriber has a special protection in that it is the legal responsibility of the pharmacist to refuse to compound and fill the prescription before contacting the man who wrote it, in a case where a mistake has been made in writing for an overdose of a drug or whenever there is any question in the pharmacist's mind concerning dosage, etc. I can only suggest that when it comes to writing prescriptions **your best friend is your pharmacist.** He will discuss with you dosage forms of drugs, uses, and also keep you informed of new drugs as they might be used in your practice. If there is an occasion where you know that a drug or a combination of drugs is necessary, and you are unsure of dosage, etc., elicit the name of the patient's pharmacist and tell the patient that you wish to discuss with him a new drug and that the pharmacist will have the prescription ready for him. After the patient leaves the office, phone the pharmacist, and tell him of your desires and he will gladly offer one of several suggestions to you. He will not think ill of you. On the contrary, he will respect you all the more. Writing a prescription for the dental patient should be as much a part of the dentist's armamentarium as his knowledge and application of the drugs he uses. **Dentists CAN Write Prescriptions.**

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THE CHANGING PRESCRIPTION MARKET PLACE*

by

M. F. McCameron**

The prescription habits of the pharmacy profession are undergoing dramatic changes. These changes will have a heavy impact upon the modus operandi of many pharmacies as we know them today. The speed with which this happens depends upon the size and nature of the business community. In any event, the forces at work are inevitable and some of these trends are mentioned for your consideration in the future planning of your particular prescription operation.

There is a definite trend toward a separation or removal of front-end merchandise from the drugstore picture. This has come about due to the growing number of one-stop shopping centers that are handling more and more consumer merchandise which has long been associated with the drugstore but which is not necessarily closely related to the health field. The success of this type operation has found these outlets seeking further inroads through the establishment of prescription departments. The emphasis chiefly is on price appeal, plus one-stop shopping convenience. Thus far they have experienced much success in obtaining a high percent of chronic-type prescription medication (diabetics, cardiacs, etc.).

A second force is the broadening base evident in the operation of hospital pharmacies. In the past, hospital pharmacies were concerned with inpatient care medication only. Evident in the surge of new hospital construction is the more frequent appearance of pharmacies which are seeking outpatient care or off-the-street business, if you prefer.

A third force which is working on our traditional prescription market place is the nursing home. The increasing percent of elderly people who are candidates for these facilities has created a mushrooming effect on the number and size of nursing homes. The larger nursing homes are evolving a system of operation which poses distinct advantages by incorporating a pharmacy for the dispensing of medications.

Another force at work is the growing welfare aspect, financed in varying portions at local, state, and national levels. There are several such state programs under close observation by pharmaceutical leaders at this very moment. The patterns they take will do much to establish precedence in the future

*A summary of a talk presented at the 78th Annual Convention of the South Dakota Pharmaceutical Association, May, 1964, Mitchell, South Dakota.

**Manager, Omaha District, Eli Lilly and Company.

application of this type program in other areas.

The changing face of medical practice is indeed a trend we should consider. All of us have witnessed the increased degree of medical specialization in the past two decades. This pattern has evolved so prominently that specialists now outnumber general practitioners. Specialization is creating a need for close association among physicians and this association has molded the commonly accepted clinic with which we are all familiar. Such specialization grouping offers the many facilities necessary in the practice of today's medicine. One of these facilities is the clinic pharmacy and the nature of this operation reverts back to the separation trend occurring between the front-end merchandise and the prescription merchandise. A further outgrowth of this medical grouping association is the tendency to locate near hospital facilities, as evidenced by many new hospital construction projects which include, as an integral part, units or offices which are in close proximity to the institution proper.

The above mentioned trends may not cover all forces at work in our pharmaceutical market place, but I am sure you will agree with me they do point up some of the more significant ones.

It is highly improbable that you as a member of the pharmacy profession will be faced with the effect of all of these trends, yet we must be realistic in recognizing that your moment of decision will soon arrive regarding certain parts of this changing picture — if it has not already done so. The important point to remember is to keep flexible in your pattern of prescription operation so that you might predict with a greater degree of accuracy the best method to meet these challenges as they arise.

Yes, the prescription market place predicts dramatic changes! Many of these changes also predict a growing prominence for pharmacy as a profession. This promising future belongs to those of us who are aware of these trends and alert to the changes necessary for continued success in our chosen field of endeavor.





DON'T LOAD YOUR ELECTRIC WIRING

DON'T ALLOW COMBUSTIBLE MATERIAL TO ACCUMULATE





MAKE SURE ALL CIGARETTES AND MATCHES ARE OUT

KEEP INFLAMMABLE CLEANING FLUIDS AWAY FROM FIRE



Fire can take a tragic toll in lives and property. Take precautions by seeing that your home and store is free from fire hazards.

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Since your coverage has been re-evaluated in view of today's high replacement costs? Play safe with the new . . . . .

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PHARMACEUTICAL EDITORIAL

THE PHARMACIST — A CONSULTANT

The pharmacist is a specialist. He is a specialist in reading prescriptions, in filling prescriptions, and in providing information concerning prescription drugs. Because of this, the pharmacist can be a valuable source of information to the doctor. The degree that the doctor may consult the pharmacist, however, depends entirely upon the doctor. If the doctor has no questions, he will not consult the pharmacist. Because a doctor writes a multitude of prescriptions and sees and talks to a host of pharmaceutical company representatives, he may not require extensive professional advice from the pharmacist.

The situation may be somewhat different relative to the dentist. Here is an opportunity for the pharmacist to be of great service to another profession. Do dentists write as many prescriptions as they should? If not, why not? Such questions are best answered by dentists themselves. Especially qualified to discuss these questions would be a dentist-pharmacist. Such a man is **Dr. Marvin Sniderman,** B.S. Pharm., D.D.S. Dr. Sniderman has written and lectured extensively to dental and pharmaceutical associations on the topic of prescription writing. He is Chief of Dental Service at the Pittsburgh Home for Crippled Children and Chief of the Oral Surgery Department of the Pittsburgh Skin and Cancer Foundation, in addition to his teaching assignments and his private dental practice. In his paper, in this issue, titled "Dentists CAN Write Prescriptions," Dr. Sniderman points out that some dentists hesitate to write prescriptions because they feel an inadequacy in prescription writing and in knowledge about drugs. He feels that a good professional relationship should exist between the dentist and the pharmacist and that the pharmacist can be of invaluable aid to the dentist in writing prescriptions and prescribing drugs. The pharmacist is certainly not educated with respect to **when** to prescribe (diagnosis) but he is well trained in **what** to prescribe and **how** to prescribe. Dr. Sniderman has included many representative examples of prescriptions in his paper. The paper contains a wealth of information for the dentist and certainly should provide interesting reading for the pharmacist.

When one speaks of the consulting activities of the pharmacist, prescriptions and prescription drugs come to mind. The pharmacist's consulting ability extends far beyond this. The education of a pharmacist is strongly oriented toward science in a very broad sense; — zoology, botany, anatomy, physiology, physics, chemistry, and mathematics provide the foundation upon which the pharmacist builds toward the more pharmaceutical aspects. The pharmacist is a virtual scientific encyclopedia and should be used as such by the layman. Where else can the layman go to ask a question concerning chemistry, physics, botany, etc.? What is more convenient than the corner drug store? Information such as this is not only conveniently available to the public but it is also free. The pharmacist should foster and encourage the attitude on the part of the public that he is a scientific consultant. In today's world, an educated person without some scientific knowledge is not **well** educated.



HIETBRINK ACCEPTS PHARMACOLOGY POSITION AT STATE U

Bernard E. Hietbrink has been appointed assistant professor of pharmacology at the College of Pharmacy, South Dakota State University. Professor Hietbrink was graduated from Corsica High School and earned a bachelor's degree at State. He received a Ph.D. degree from the University of Chicago where he has been a research associate since 1961. He is married and has four children. His appointment was effective as of September 1.

DISTRICT MEETINGS SCHEDULED

Harold H. Schuler, secretary of the South Dakota Pharmaceutical Association, announces the following schedule for Association District Meetings:

October 4 Watertown
Plateau 6:30 PM
October 11 Pierre
Falcon 6:30 PM
October 25 Brookings
Sawnee Hotel 6:30 PM
October 31 Yankton
Black Steer 7:00 PM
November 1 Mitchell
Chef Louie Steak House
7:00 PM
November 7 Mobridge
Embers 7:00 PM
November 8 Sturgis
Steak House Cafe
6:30 PM
November 15 Huron
The Plains 7:00 PM
November 22 Rapid City
"The President's,"
2209 Rushmore Road
6:30 PM
November 29 Sioux Falls
Sheraton-Cataract
6:30 PM

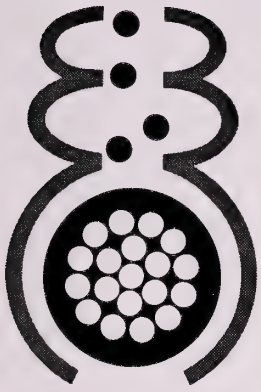
Note: (Aberdeen and Winner areas previously organized)

All pharmacists will receive two personal notices on the above meetings. The agenda includes election of president, vice president, and secretary-treasurer. Also, a discussion will be had as to district projects. Every drug store is expected to be represented at the meetings. The Association Officers and the Pharmacy Board Members of the area will attend. Also attending will be Harold H. Schuler, Association Secretary.

NEW DRUG DISCOVERIES

According to a study of the origins of 365 basic new drugs introduced since 1941, more than **ninety per cent** came from the pharmaceutical industry; about **nine per cent** came from universities and state institutions; and less than **one per cent** came from the federal government. The study was made by the Pharmaceutical Manufacturers Association.

Austin Smith, M.D., president of PMA described the massive National Cancer Institute cancer screening program as an example of current government-industry cooperation. He noted that drug firms donate most of the substances NCI screens. He said other joint ventures include collaboration on drug research to combat mental illness and to develop common cold vaccines.



LOMOTIL®

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.

- lowers motility promptly
- relieves spasm promptly
- stops diarrhea promptly

LOMOTIL fulfills the first order of treatment in most patients with diarrhea — prompt symptomatic control.

Pending discovery of the cause, early cessation of diarrhea is almost always urgently indicated. Prompt symptomatic control averts distress, dehydration and, frequently, severe exhaustion.

Both experimental and clinical evidence indicates that Lomotil exerts such control efficiently, safely and with maximal promptness.

dosage:

The recommended initial *adult* dosage is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is controlled. Maintenance dosage may be as low as two tablets daily. *Children's* daily dosage (in divided doses) varies from 3 mg. for a child of 3 to 6 months, to 10 mg. for one 8 to 12 years of age.

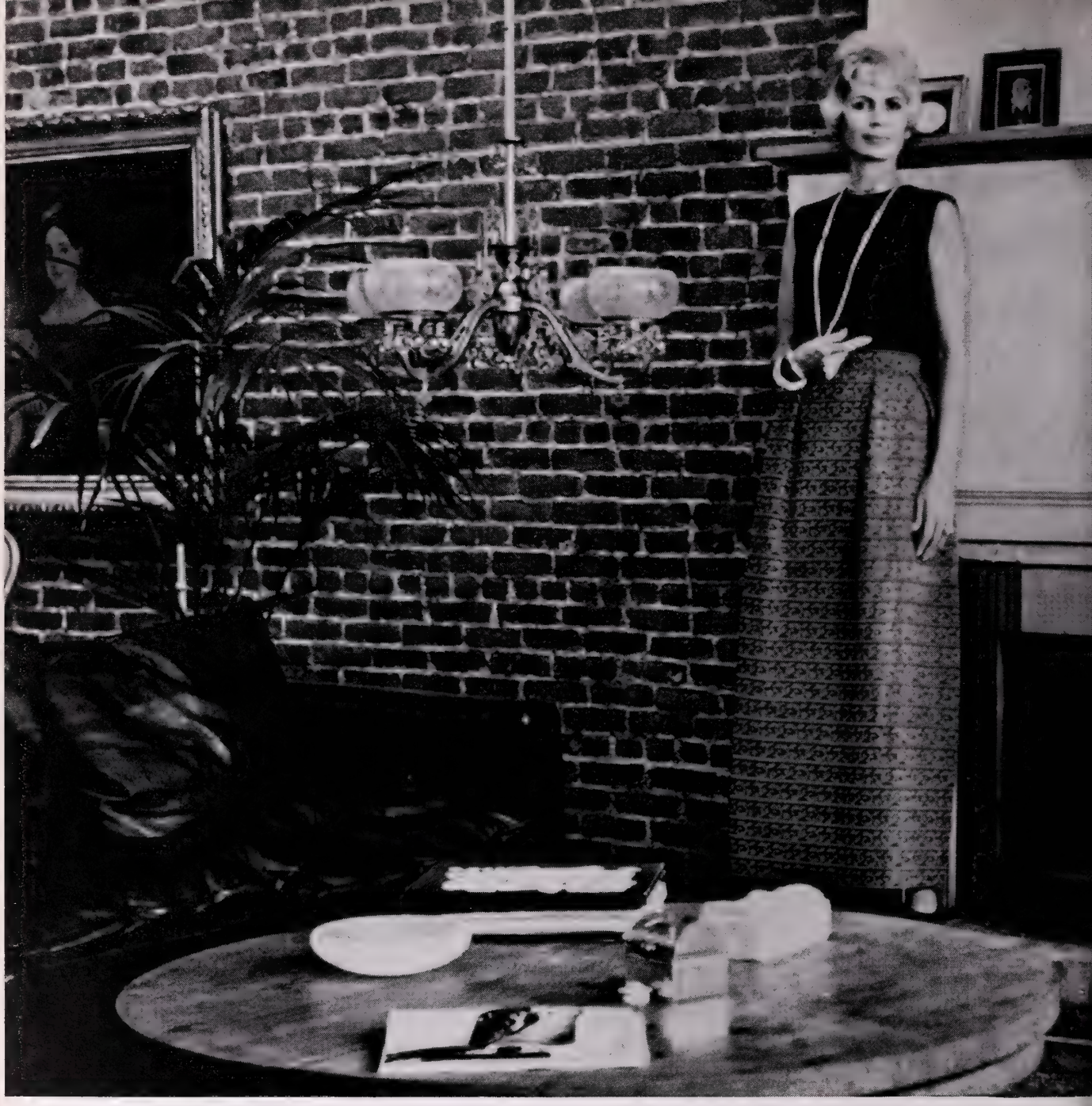
cautions and side effects:

Lomotil is an exempt narcotic; its abuse liability is low and comparable to that of codeine. Recommended dosages should not be exceeded. Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates.

Lomotil is a brand of diphenoxylate hydrochloride with atropine sulfate; the subtherapeutic amount of atropine is added to discourage deliberate overdosage.

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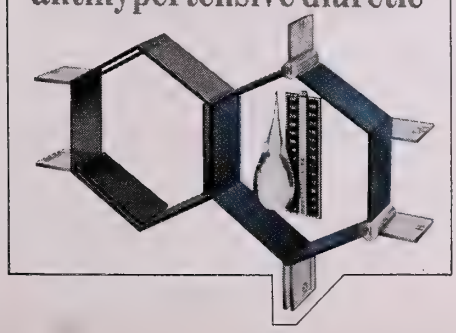
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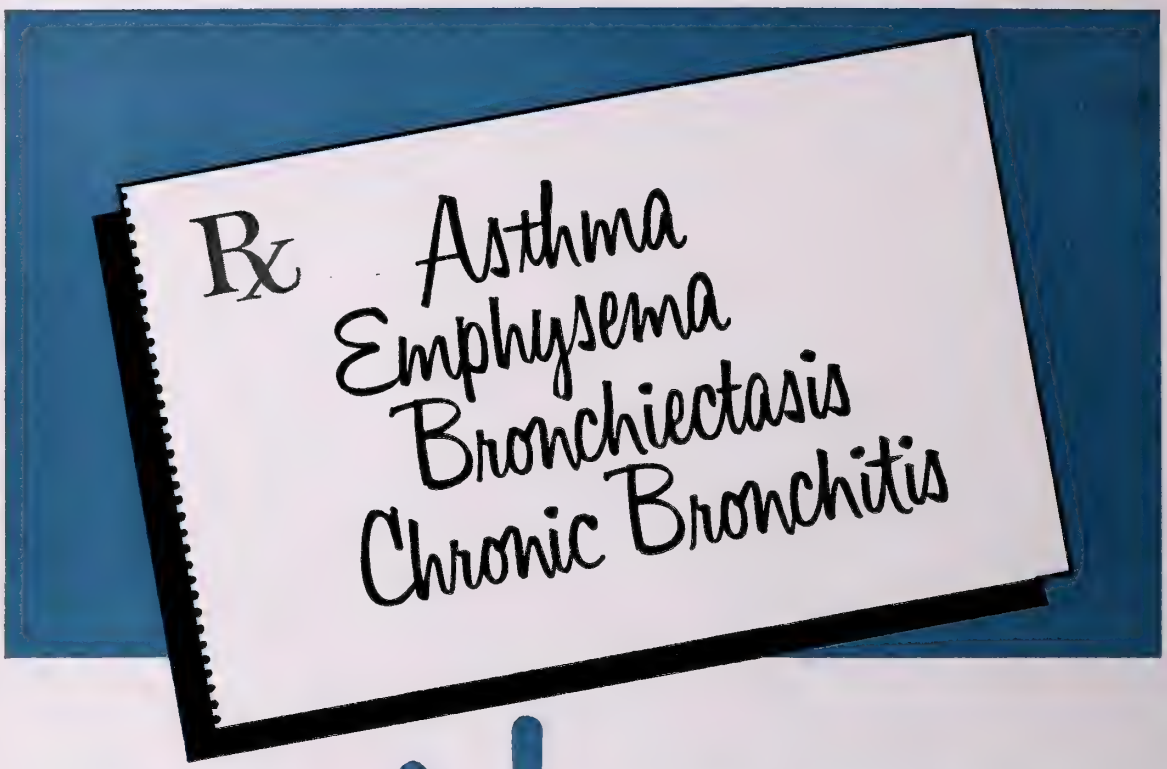
CONTRAINDICATION: Anuria.

1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. J. Amer. Geriat. Soc. 11:945 (Oct.) 1963.

2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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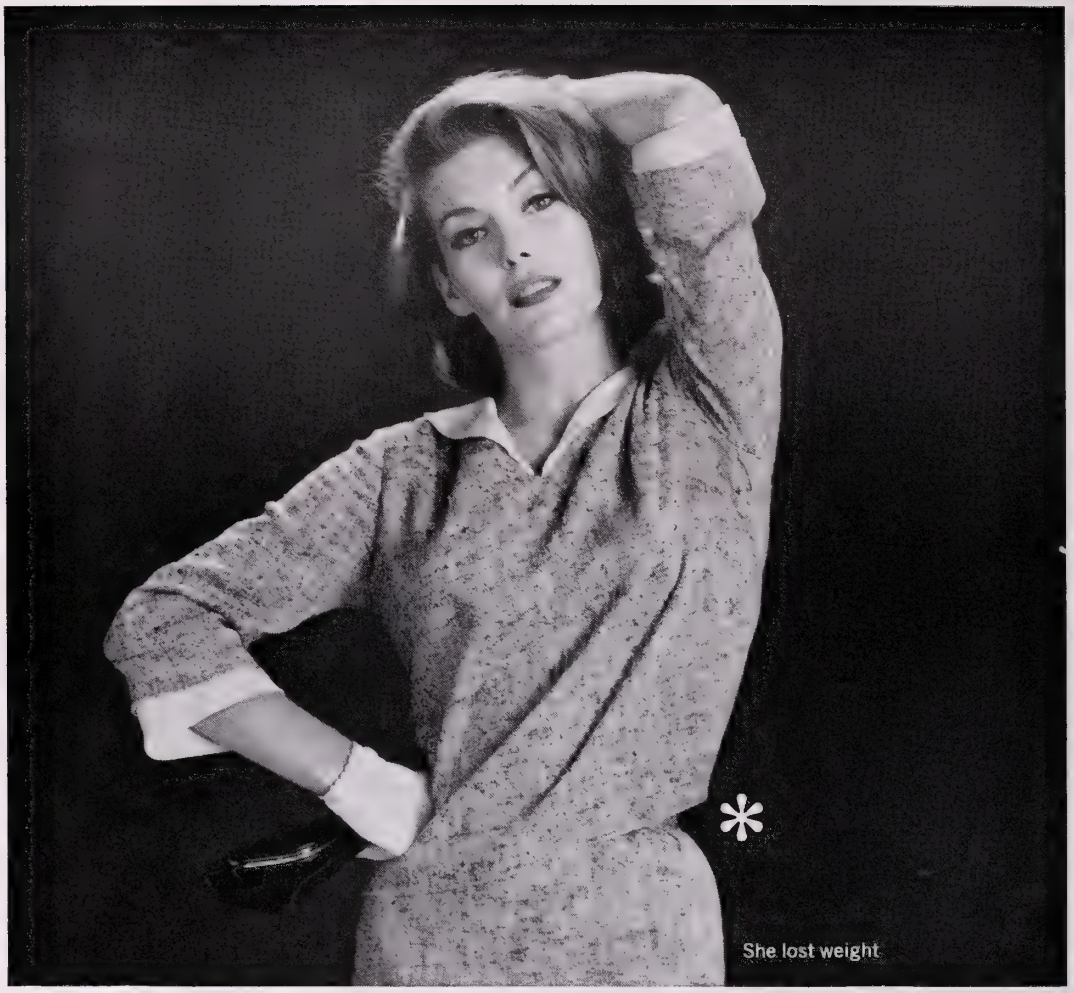
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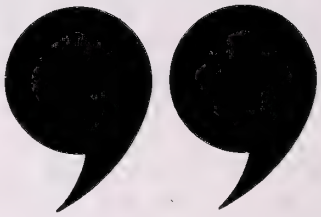
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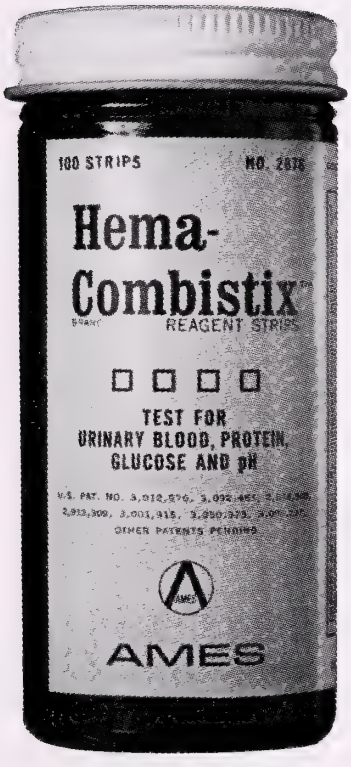
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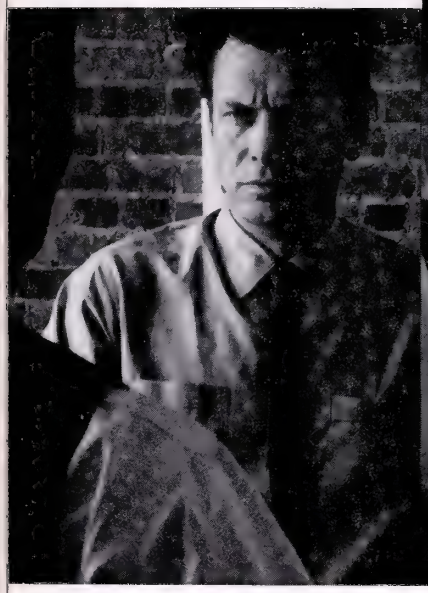
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age and administration	*Usual daily dose*
to moderate psychoneurotic reactions: Mani- ed by anxiety-tension alone or with depressive ptomatology, agitation, restlessness, psycho- siological disturbances	2 mg to 5 mg, 2 or 3 times daily
ere psychoneurotic reactions: Where severe iety, fear, agitation, aggression or hostility ex- alone or with depressive symptoms	5 mg to 10 mg, 3 or 4 times daily
holism: As an aid in symptomatic relief of te agitation, tremor, impending or acute de- um tremens and hallucinosis	10 mg, 3 or 4 times during the first 24 hours; reducing to 5 mg, 3 or 4 times daily as needed
scle spasm associated with cerebral palsy or etosis	2 mg to 10 mg, 3 or 4 times daily

traindications: Valium (diazepam) is contraindicated in infants, pa-
its with a history of convulsive disorders or patients with a history of
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rning: Valium (diazepam) is not of value in dealing with psychotic
ents manifesting anxiety and should be avoided when there is reason
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cautions: In elderly or debilitated patients, it is important to limit the
age to the smallest effective amount to preclude the development of
ia or oversedation (not more than 1 mg, 1 or 2 times daily initially,
e increased gradually as needed and tolerated). As is true of all
-acting drugs, until the correct maintenance dosage is established,
ents receiving Valium (diazepam) should be advised against pos-
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Since Valium (diazepam) has a central nervous system depressant effect, patients should be advised against the simultaneous ingestion of alcohol and other central nervous system depressant drugs during Valium (diazepam) therapy. Safe use of Valium (diazepam) during pregnancy has not been established. The usual precautions are indicated when Valium (diazepam) is used in the treatment of anxiety states where there is any evidence of impending depression; particularly the recognition that suicidal tendencies may be present and protective measures may be necessary. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Side effects: In clinical use, fatigue, drowsiness and ataxia have been reported; in most instances these are dose-related and may be avoided by proper dosage adjustment. Mild nausea and dizziness may occur on occasion. As with any new agent, when it is administered for protracted periods of time, periodic blood counts and liver function tests are advisable. Abrupt cessation after prolonged overdosage may, in some patients, produce withdrawal symptoms (*e.g.*, convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and Librium® (chlordiazepoxide HCl). Changes in EEG patterns have been observed in patients during and after Valium (diazepam) treatment.

Paradoxical reactions, such as excitement, depression, stimulation, sleep disturbances, acute hyperexcited states and hallucinations have been reported. Other side effects noted have been blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash.

Valium (diazepam) is available as 5-mg and 2-mg tablets. For convenience and economy in prescribing, both strengths are supplied in bottles of 50.

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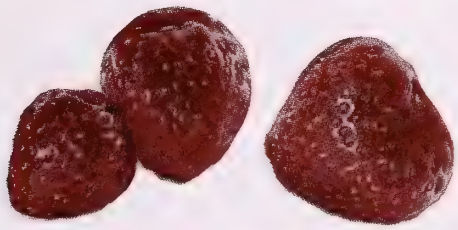
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MEDICINE and PHARMACY

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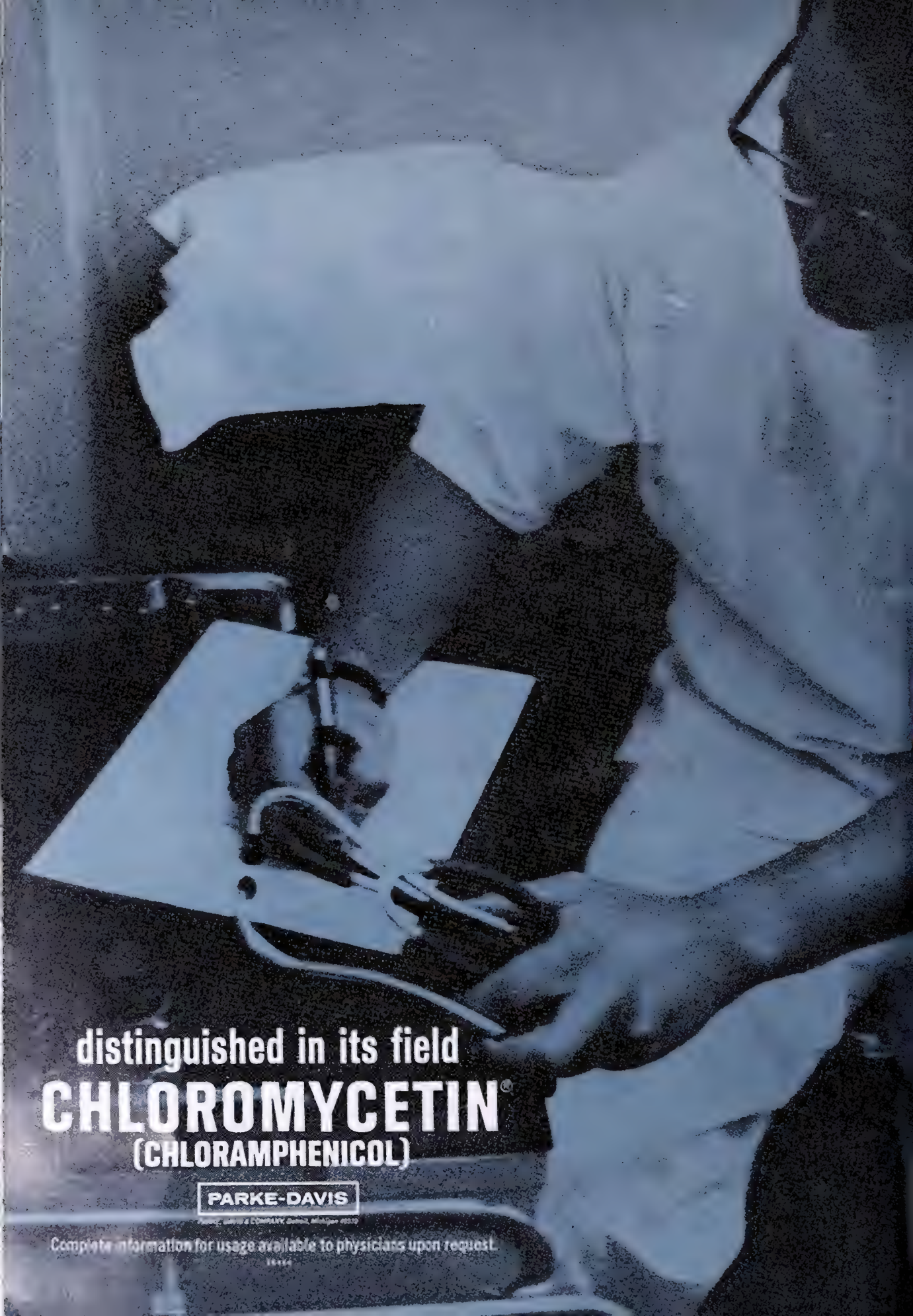
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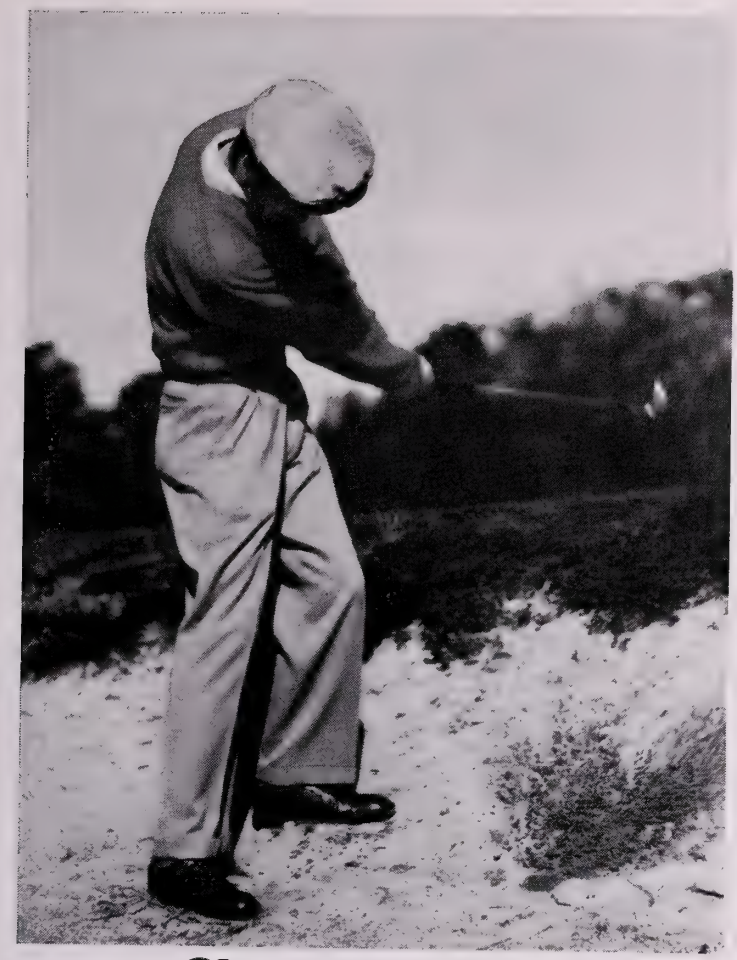
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BRIEF SUMMARY

'SOMA' COMPOUND; 'SOMA' COMPOUND plus CODEINE: carisoprodol, acetophenetidin, caffeine, codeine phosphate. *Warning: Codeine may be habit-forming.* **Indications:** 'Soma' Compound and 'Soma' Compound with Codeine are indicated for relief of pain and stiffness in traumatic, rheumatic and other similar conditions. **Contraindications:** Allergic or idiosyncratic reactions to carisoprodol or codeine. **Precautions:** *Acetophenetidin*—May damage the kidneys when used in large amounts or for long periods. *Codeine*—Should be used with caution in addiction-prone individuals. *Carisoprodol*—Like other central nervous system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate. **Side effects:** *Codeine*—Nausea, vomiting, constipation, and miosis. *Carisoprodol*—The only side effect reported with any frequency is drowsiness, usually on higher than recommended doses. One instance each of pancytopenia and leukopenia occurring when carisoprodol was administered with other drugs has been reported as has an instance of fixed drug eruption with carisoprodol and subsequent cross-reaction to meprobamate. Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respiratory difficulty, both reversed with appropriate therapy. Other rarely observed reactions have included dizziness, ataxia, agitation, increase in eosinophil count, and gastrointestinal symptoms. Massive overdosage may produce coma and/or mild shock and respiratory depression. **Dosage:** 'Soma' Compound and 'Soma' Compound with Codeine, one or two tablets three times daily and at bedtime. **Supplied:** 'Soma' Compound, orange tablets, each containing carisoprodol 200 mg., acetophenetidin 160 mg., and caffeine 32 mg. 'Soma' Compound with Codeine, white, lozenge-shaped tablets, each containing carisoprodol 200 mg., acetophenetidin 160 mg., caffeine 32 mg., and codeine phosphate 16 mg. Narcotic order form required. *Before prescribing, consult package circular.*

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JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION, THE SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION AND THE SIOUX VALLEY MEDICAL ASSOCIATION

Volume XVII **November, 1964** **Number 11**

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

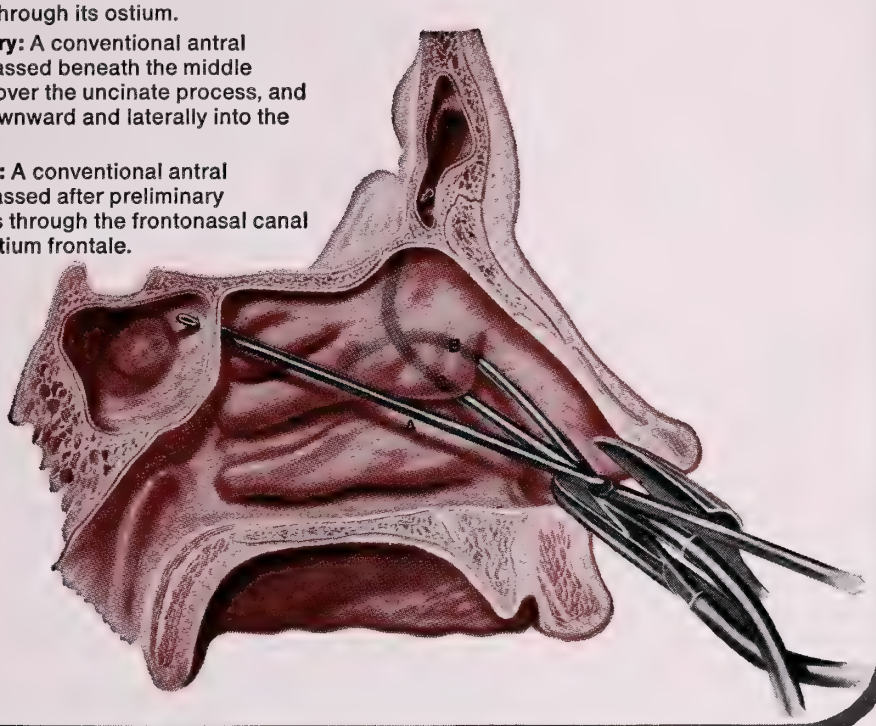
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*Adams, J.: J. Tenn. Med. Ass. 50:446, Nov., 1957.

Condition	No. of Patients	No. Cured with Signemycin
Otitis media	90	86
Pharyngitis and laryngitis	162	148
Sinusitis	68	55
Tonsillitis and peritonsillitis	163	153
Various	24	23
Totals	507	465 (91.7%)

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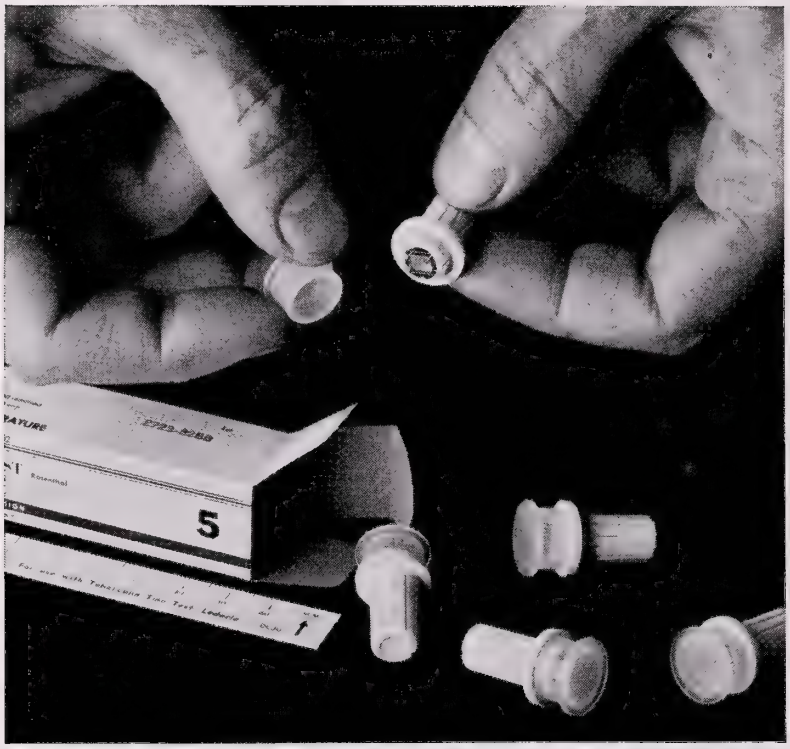
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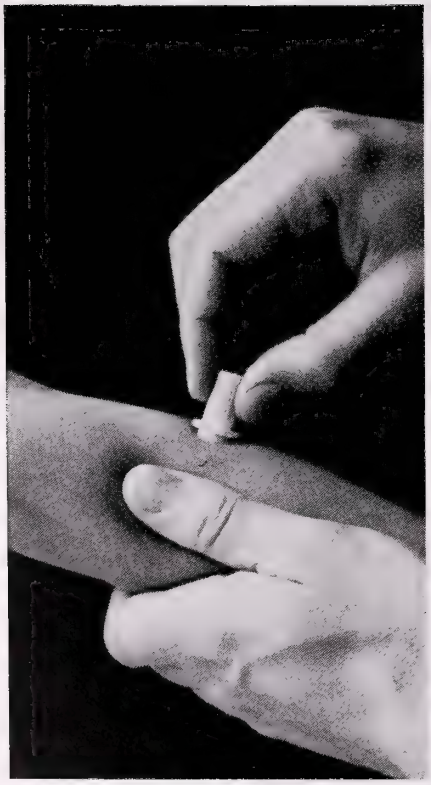
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Note:
Morador et al.* obtained *excellent results in the treatment of 185 out of 191 soft-tissue infections*, all due to staphylococci. They state: "In the most serious infections occurring in patients with impaired resistance (mainly diabetics) we have had very good results in the control of the infectious condition." In these studies, incision and drainage were employed where indicated.

*Morador, J. L. et al.: Antibiot. Ann. 1959-1960:716.

Condition	No. of Patients	No. Cured with Signemycin
Abscesses, various	35	34
Abscess, gluteal or perianal	54	52
Burns, infected	331	307
Carbuncles and furuncles	125	122
Cellulitis	104	102
Lacerations and wounds, infected	142	128
Ulcers, infected	107	106
Various superficial infections	190	185
Totals	1,088	1,036 (95.2%)

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Side Effects: Glossitis and allergic reactions, as well as severe anaphylactoid reactions, have been reported as rare side effects. Should significant reaction or idiosyncrasy occur, discontinue medication and institute countermeasures. Use of tetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of developing teeth. Reduce usual oral dosage and consider serum level determinations in patients with impaired renal function to prevent possible liver toxicity due to excessive accumulation of antibiotic in the serum.

Precautions: Overgrowth of nonsusceptible organisms may occur. In such cases, discontinue medication and institute appropriate specific therapy as indicated by susceptibility testing. Aluminum hydroxide gel given with antibiotics has been shown to decrease their absorption and is contraindicated. The coloring agents used in Signemycin Syrup and Pediatric Drops may produce red discoloration of stools.

Triacetyloleandomycin, a constituent of Signemycin, administered to adults in daily oral doses of 1.0 Gm. (3 Gm. Signemycin) for periods of more than ten days may produce hepatic dysfunction and jaundice. In the rare patient who requires this high dosage level of Signemycin initially, liver function should be carefully followed and dosage should be reduced, as promptly as possible, to the usual recommended range of 1.0 to 2.0 Gm. per day. Therefore, Signemycin is recommended primarily for the treatment of acute or severe infections, with treatment restricted to a ten-day period. If clinical judgment dictates continuation of therapy beyond ten days, serial monitoring of the liver profile should be carried out, including BSP, transaminase, and cephalin flocculation tests. Changes observed in liver function were reversible following discontinuation of the drug.

Formulas: Capsules: 250 mg. Signemycin (167 mg. tetracycline HCl and 83 mg. oleandomycin as triacetyloleandomycin).

Capsules: 125 mg. Signemycin (83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin).

Syrup: 125 mg. Signemycin (tetracycline equivalent to 83 mg. tetracycline HCl and 42 mg. oleandomycin as triacetyloleandomycin) per 5 cc.

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Note:

The high rate of response to Signemycin in these cases is noteworthy because the totals include many patients with difficult-to-treat infections, many whose infections had proved resistant to other agents, and many who had been treatment failures on other therapy.[1-87] In addition the following criteria were used for the cases cited: (1) only published results were used (2) results were confirmed by clinical and/or laboratory findings (3) patients were cured, not "improved" (4) dosage conformed with current recommendations in the United States (5) no other anti-infective agents were used concomitantly (6) no instance of prophylactic use was included in these tabulations.

Condition	No. of Patients	No. Cured with Signemycin
Ear, nose and throat infections	507	465
Respiratory infections	1,028	954
Gastrointestinal infections	425	387
Genitourinary infections	748	684
Skin and soft-tissue infections	1,088	1,036
Bone and joint infections	71	64
Deep-seated or generalized infections	257	251
Obstetrical & gynecological infections	341	320
Miscellaneous conditions	592	570
Totals	5,057	4,731 (93.5%)

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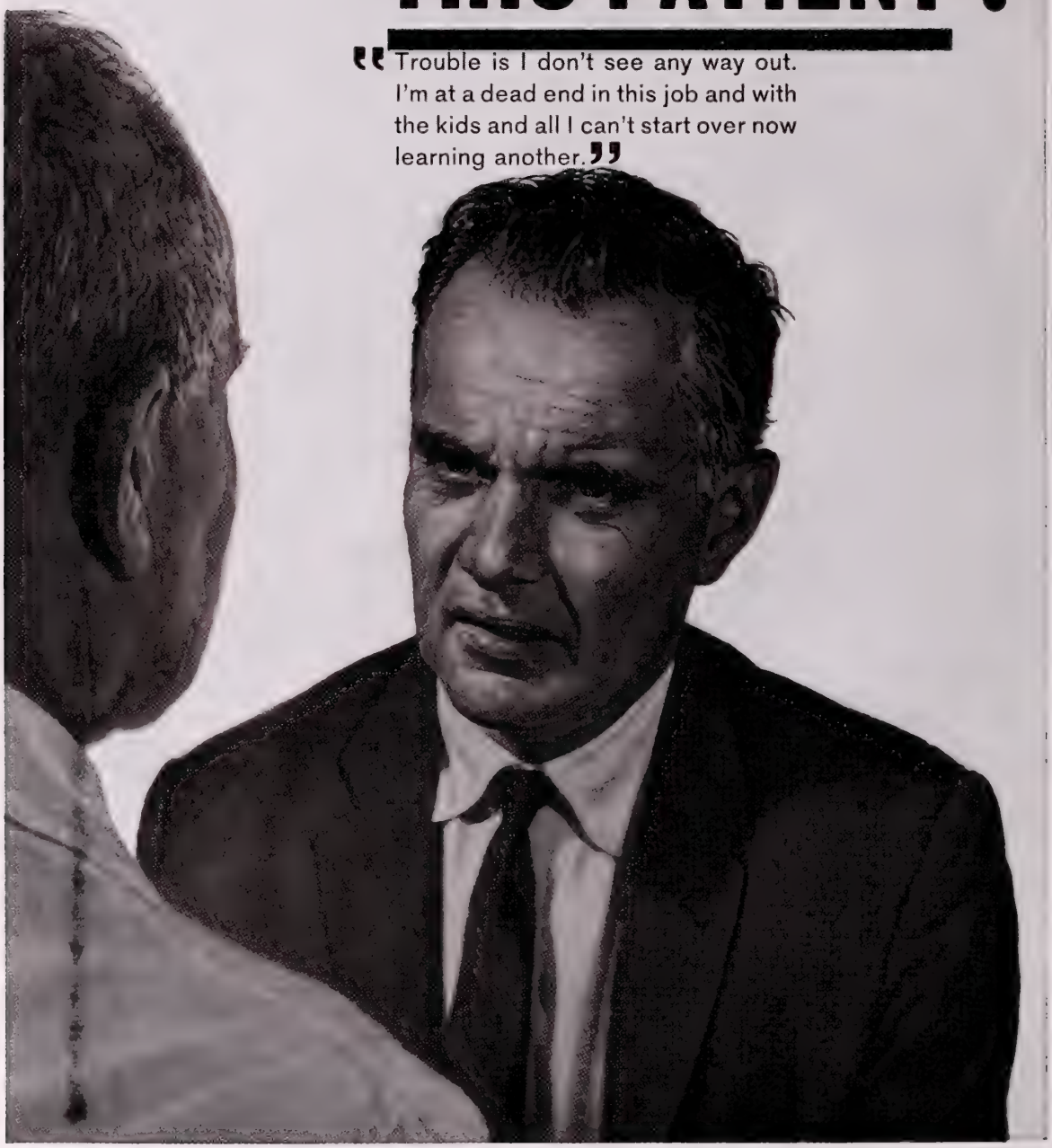
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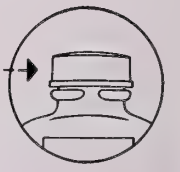
Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses of the drug. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasm, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis, and anaphylaxis. Treatment should be symptomatic and the drug not reinstituted. Isolated cases of agranulocytosis and thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. **Dosage:** Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and reduced gradually to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients. **Supplied:** Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg. *Before prescribing, consult package circular.*

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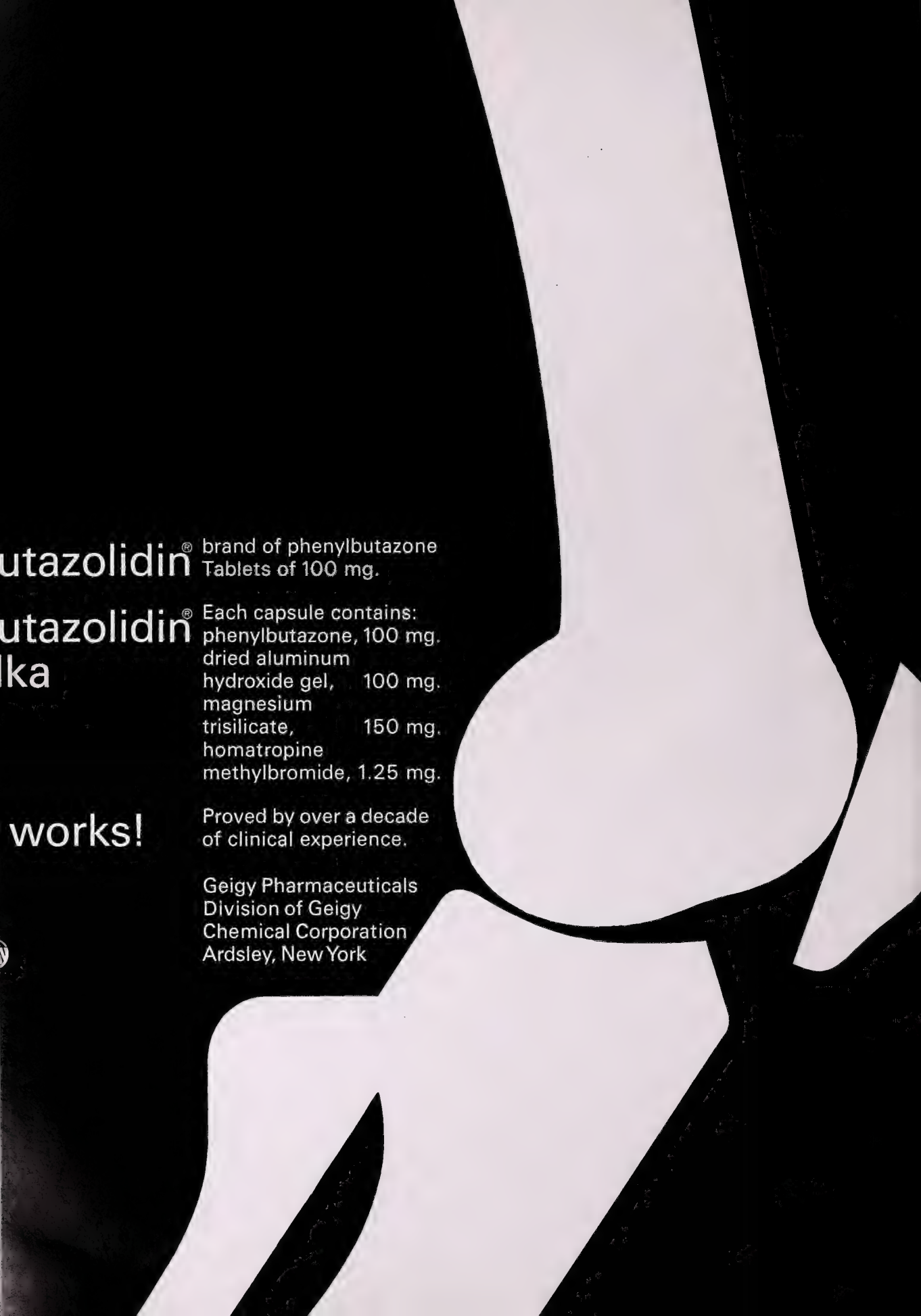
dosage: ADULTS—1 to 2 tsp. q.i.d., as necessary. CHILDREN—½ to 1 tsp., t.i.d. or q.i.d.

side effects: Overdosage may result in mild drowsiness or excitement, but within the therapeutic range neither is likely.

Precautions: Administer with caution to patients with cardiac or peripheral vascular diseases and hypertension.

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references:* Boyd, E. M., and Ronan, A. K.: Am. J. Physiol., 135:383, 1942.


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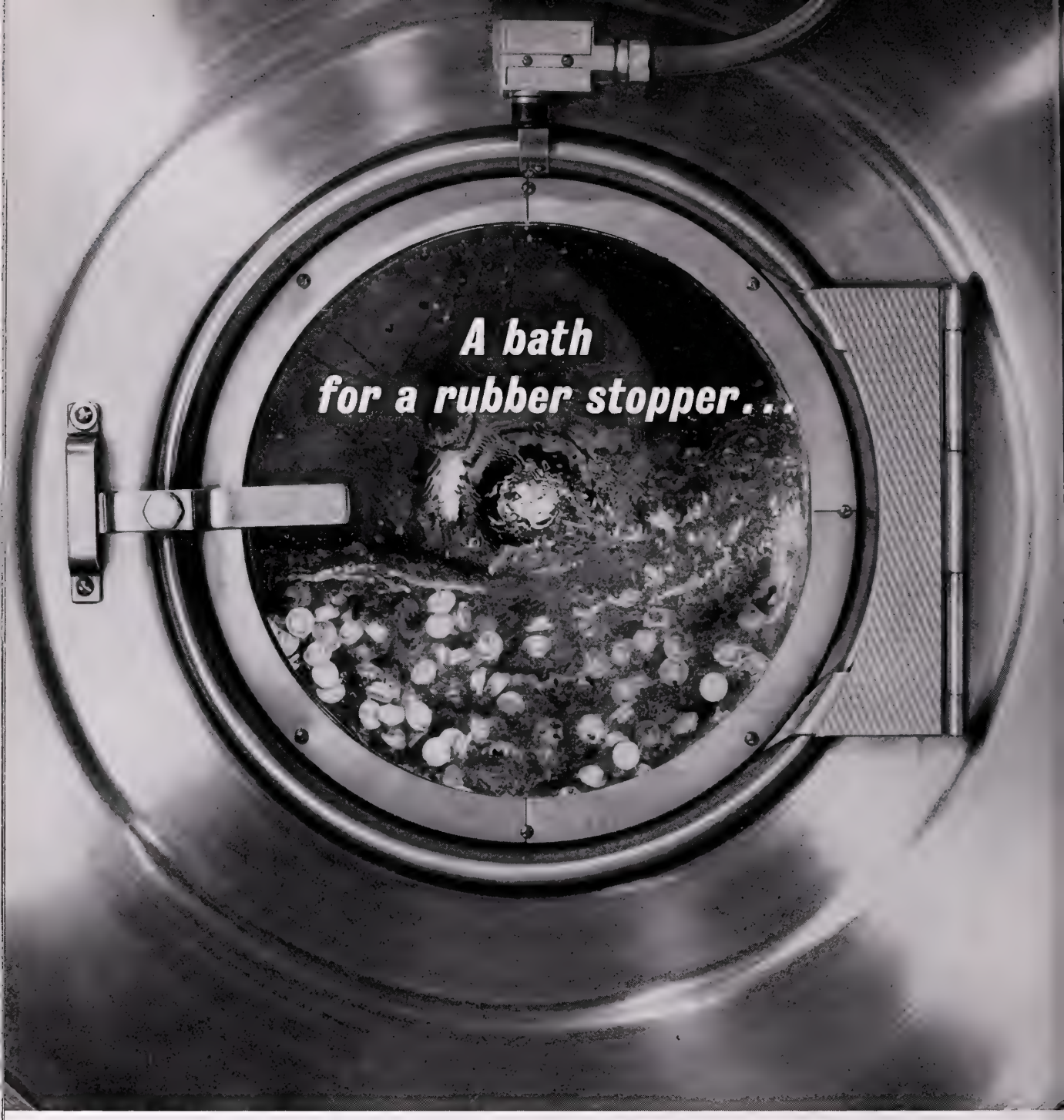
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1. Dorfman, W., and Johnson, D.: *Overweight Is Curable*, New York, The Macmillan Company, 1948, p. 16.

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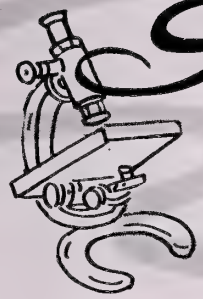


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Scientific PAPER

Multicentric Carcinoma in-situ of the Vagina and Vulva Following Carcinoma in-situ of the Cervix

By

Fred S. Stahmann, M.D.

Sioux Falls, South Dakota

Since the more general use of the Papanicolaou cervical-vaginal smear, increasing numbers of multicentric epidermoid carcinomas of the cervix, vagina and vulva have been reported. The majority of cases have been vaginal cancers diagnosed some years after treatment for cervical cancer. Vulvar malignancies have been reported less often. The practical clinical value of this knowledge is that if cancer is found in the cervix, vagina or vulva, one should watch for immediate or later cancers in the other two organs.

The theory of multicentric origin of cancer in the cervix, vagina and vulva is based upon two facts. First, the embryological origin of these organs, which all develop from the common urogenital sinus, and, second, that they are all tissue, which are sensitive to estrogen. It seems that the cervix, vagina and vulva may be considered as a large field predisposed to a carcinogen, acting on one or more of these organs at the same time or later.

This case is added to the growing number of reports of carcinoma in-situ of the vagina and vulva, following hysterectomy for cervical carcinoma in-situ. The treatment by total vaginectomy, followed later by construction of a vagina, is unusual.

Case Report

The patient, (McKennan Hospital No. 191255) a 45 year old, vigorous, white woman, para V, gravida VI, had carcinoma in-situ of the cervix, (Figure 1) which extended to the vaginal mucosa of the posterior vaginal formix, on October 3, 1957. This was treated by total abdominal hysterectomy, bilateral salpingectomy and amputation of the upper 2 cm. of the vagina. Pathological examination of the surgical specimen revealed the line of excision of vagina to be well beyond the area of carcinoma in-situ of the cervix and upper vagina. She was seen annually after this procedure and had no gynecological complaints or abnormal findings.

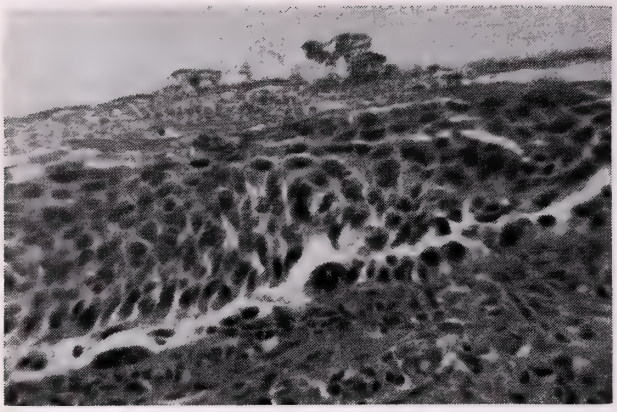


Fig. 1 Carcinoma in-situ of the cervix showing complete lack of stratification of cells, anaplasia and nuclear activity. (X43)



Fig. 2 Carcinoma in-situ of the vaginal vault. Note intact basement membrane. (X10)

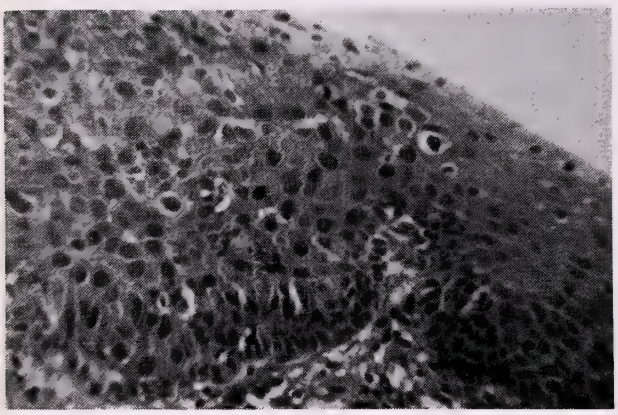


Fig. 3 Carcinoma in-situ of the left lower vagina and fourchette. Transition zone with normal mucosa on the right. (X43)

In December, 1962, she developed soreness and itching of the left side of the introitus and left side of the vagina. The vaginal mucosa in this area appeared erythematous and excoriated. Cytologic examination of vaginal scrapings were reported positive for malignant cells. On January 2, 1963, biopsies were taken from the vaginal vault and the lower left vagina and the introitus. All of these areas showed carcinoma in-situ, along with some areas of normal mucosa. (Figures 2 & 3)

On February 11, 1963, a total vaginectomy and excision of the labia minor was done, which revealed

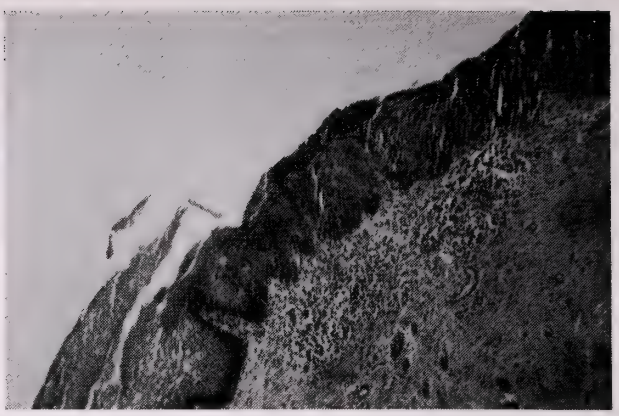


Fig. 4 Carcinoma in-situ of the medial aspect of the right labia minor. Note transition with normal mucosa to left. (X10)

carcinoma in-situ of the vaginal vault and lower vagina, extending to the medial aspect of the labia minor (Figure 4) on the right. The lines of excision appeared adequate and no invasive carcinoma was noted after thoroughly sectioning the surgical specimen. The vagina was allowed to heal closed after the procedure.

Because of the patient's age and good physical condition, the vagina was reconstructed. This was done seven and a half months later, on October 1, 1963, the following technique was employed.

A stent was prepared by snugly rolling a foam rubber pad into a cylindrical mass, 4½ inches long and 1½ inches in diameter. This was covered by two rubber condoms and the ends of the condoms tied. A split thickness skin graft was taken from the medial aspect of the patient's thigh by Dr. Howard Shreves. The graft was sutured over the stent using 5-0 chromic catgut.

A transverse incision was made through the scarred skin below the external urinary meatus and by sharp and blunt dissection the vaginal space between the urethra and rectum was dissected up to the pelvic peritoneum. Difficulty was anticipated at this point because of the postoperative scarring, but the dissection proceeded easily and was perhaps only slightly more difficult than is encountered in doing it for congenital absence of the vagina. Very little bleeding was encountered and good hemostasis was easily obtained. The foam rubber stent, covered with the split thickness graft, was sutured to the margin of skin wound with fine silk. The labia majora were sutured together to close the vaginal opening and retain the stent, using heavy silk.

The patient had an afebrile postoperative course. She received a broad spectrum antibiotic. On the tenth postoperative day the stent was removed because the labial sutures began cutting. We had planned to leave the stent in place for twelve days.

It appeared that at least eighty percent of the new vagina was covered by epithelium on removal of the stent. Three weeks later it was entirely epithelialized. No granulation tissue formed at any time. Estrogen cream was instilled into the vagina and she received Stilbesterol, 2 mgm. daily. She wore a plastic test tube almost continuously for a month and at night thereafter for another month. Three months postoperatively the epithelium of the vagina had the moist soft appearance of mucous membrane. Coitus has been satisfactory.

Discussion

Carcinoma of the vagina is one of the least common of gynecological malignancies, accounting for only about 1.5% of female genital malignancies. When diagnosed in the invasive stage it has a uniformly poor prognosis.

Adequately treated and followed, carcinoma in-situ of the vagina should have a good prognosis. It can be treated by radium and X-ray therapy or by surgery. Surgery was used in this case because we wished to avoid the atrophy and contraction secondary to radiotherapy and to allow a better chance to reconstruct a functional vagina later. Having the entire vaginal mucosa to examine pathologically made us certain that the lesion was only in-situ and not invasive and that therapy would be adequate.

The knowledge that carcinoma of the cervix, vagina and vulva seems to predispose the other two organs, toward the development of malignancy, seems firmly established. This fact is of value in follow-up examinations for women treated for these lesions. In addition to the primary malignancy, neoplasm should be watched for in other areas of this predisposed field. Follow-up examinations should include staining the cervix and vagina with Lugol's solution and biopsying any areas that do not stain. In addition a Papanicolaou smear should be taken annually.

Scokel[5] and others[3-6] have emphasized that considering epidermoid carcinoma of the cervix, vagina and vulva as a regional disease should remind us to consider the vagina and vulva in patients having persistently positive cytology, after adequate cold knife biopsy of the cervix and curettage of the endometrium has failed to reveal the source of atypical cells. These patients should have the vagina and vulva stained with Lugol's solution and non-staining areas biopsied.

Carcinoma in-situ of the cervix may extend to the upper vagina as it did in this case. For this reason, cases of carcinoma in-situ of the cervix should have a biopsy of the upper vagina at the time of the cervical biopsy, along with biopsy of any non-iodine staining areas of the lower vagina. This would not only tell us whether an in-situ lesion of the vagina was present but aid us in knowing how much vagina to remove at hysterectomy.

Summary

1. A case of multicentric pre-invasive carcinoma of the vagina occurring five years after treatment for pre-invasive carcinoma of the cervix and upper vagina is reported.
2. The diagnosis was made by cytologic smear examination, followed by biopsy.
3. Therapy consisted of total vaginectomy

(Continued on Page 27)



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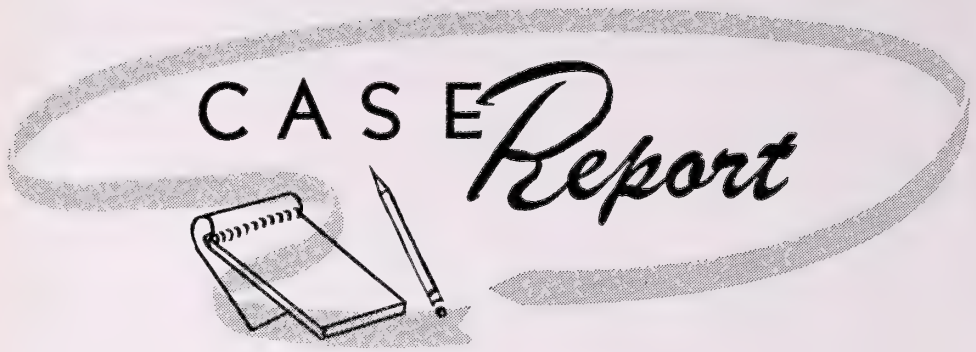
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Unilateral Inner Ear Deafness Complicating Infectious Mononucleosis

By

John B. Gregg, M.D.

and

James H. Shaeffer, M.D.

Sioux Falls, South Dakota

In recent medical literature, infectious mononucleosis has been reported to be associated with pericystitis, spontaneous hemoperitoneum of splenic origin, rupture of the spleen, jaundice with and without hepatitis, porphyria, subacute thyroiditis, morbilliform exanthema, hemorrhagic phenomena, orchitis, acute thrombocytopenic purpura, acute pericarditis, hemolytic anemia, encephalitis, and facial paralysis, but to date involvement of the inner ear has not been observed complicating this disease. Recently profound damage to the cochlea and the vestibular portions of the inner ear occurred in a patient while he was in the subacute phase of infectious mononucleosis and the only demonstrable cause for it was the infection.

CASE REPORT

A 17 year old male was seen 4-20-63 complaining of a cold, fatigue, sore throat, and temperature of 103 degrees. White blood count was 2,550; the differential count showed 50% lymphocytes with many young atypical forms. Enlarged, tender cervical lymph nodes were present bilaterally but the liver and spleen were not palpable. He had been treated with penicillin for a bad sore throat in December 1962 and responded well.

Symptomatic treatment was prescribed. He was seen again on 5-2-63 complaining of sore throat, anorexia, tiredness, and had a temperature of 99.2. His right tonsil was inflamed; there was increased enlargement of his right upper cervical lymph node chain, enlargement and tenderness of his liver but not his spleen. A blood count was not done. On erythromycin the throat infection improved rapidly so that by 5-23-63 he was much improved, white blood count was 8,000 and the blood smear was returning to normal. On about 5-17-63 he noted sudden ringing in the right ear and marked hearing loss. There was also occasional light headedness and imbalance while walking and two episodes of momentary severe whirling sensation. There was no history of recent bacterial or virus infection although he had been given Type III oral poliomyelitis vaccine on 5-6-63.

Hearing in the past was excellent; school hearing tests in the third and sixth grades had been normal. There was no history of earaches or aural discharge,

head injury, significant noise exposure, contact with neuro-toxic chemicals, or apparent involvement of the ears by childhood diseases.

Otolaryngological examination on 6-4-63 showed moderately enlarged tonsils, a few enlarged lymph nodes in both sides of the neck and in the axillae but no other abnormality. The ears were structurally normal. The audiogram showed normal hearing on the left but no response on the right with full masking on the left. Ice water caloric tests showed normal response on the left but no response on the right. There was no spontaneous nystagmus. On the Rhomberg test he swayed backward after about 8 seconds. Blood count - WBC-6,000, Differential - Segs-49, Stabs-1, Lympho-38, Mono-5, Eosino-6, Baso-1. Heterophile antibody titre - Positive 1:14.

He was put on a vasodilator orally and followed at frequent intervals. The audiograms showed consistently normal hearing on the left and severe inner ear type hearing loss on the right but over one year there was very slight return of function in the low tones on the right (See figure #1). Ice water caloric studies repeatedly showed no function on the right but normal responses on the left. He had no other significant complaints and physical and neurological examinations continually showed no other abnormality.

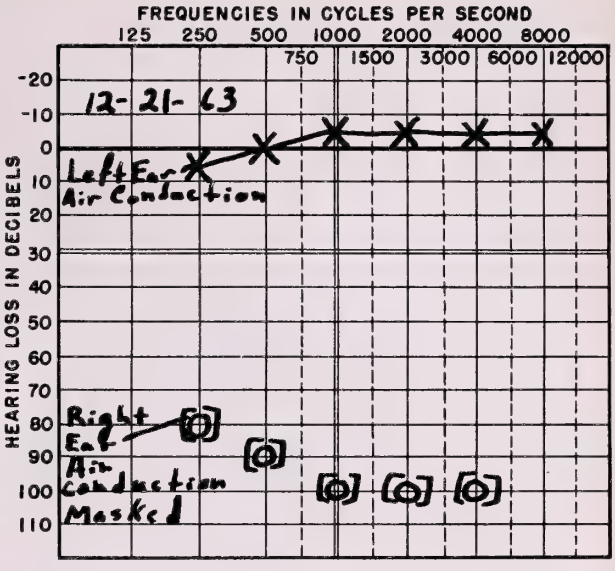


Figure 1.
Audiogram done about seven months after the onset of hearing loss showing very slight auditory response on the right side, of questionable significance.

COMMENT:

An instance has been observed in which a youth developed severe inner ear type hearing loss and absent vestibular labyrinthine function unilaterally while in the active stage of infectious mononucleosis. The only other known recent contact with a virus having an affinity for the central nervous system was the administration of Type III oral poliomyelitis vaccine eleven days prior to the onset of the hearing loss. No other factor capable of injuring the cochlea, vestibular apparatus, the eighth cranial nerve, basal nuclei or auditory and vestibular projection areas was found after intensive search. Over a period of nine months there was questionably a very slight return of auditory function in the low frequencies but no evidence of return of labyrinthine response. The hearing and caloric test remained normal in the unaffected ear. No other neurological or general physical problems were encountered. The findings here would implicate infectious mononucleosis as a potential causative agent for destructive effect upon the cochlea and vestibular labyrinth.

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Due to space limitations, the remainder of the references have been omitted. They are available on request from the South Dakota Journal of Medicine, 711 North Lake Avenue, Sioux Falls, South Dakota.

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What's In It For Me?*

Otha W. Linton**

It is possible that the basic problem of medical economics lies in the obvious fact that people do not like to be sick and resent paying the costs of sickness. This would seem so true as to be absurd — except for a deplorably good chance that the doctor-patient financial relationship may cease to exist in this country as it has elsewhere.

I doubt that there is anyone in medicine who would welcome such a change. Not only do you as physicians oppose it in your own behalf; but you believe in all sincerity that a collective medical system would be detrimental to the quality or availability of medical care for your patients. I am not at all certain that you have made this point of concern for patients entirely clear. Emphasizing that the patient has as much at stake here as does the medical profession represents the best and perhaps only hope of having your way in medical economics, it seems to me.

The problem of communicating a point of view in our society has come to depend upon conscious and successful usage of that modern craft, public relations. The identification and application of public relations principles is no more limited to professionals than the observance of good health habits is limited to doctors. However, the need for professional talent may be recognized.

The field of public relations is widely misunderstood. As applied to your problems, a public relations program is an indispensable tool. But it does not and cannot replace the substance of good medical practice and good, sound medical and health economics.

In many ways, a medical public relations program is like your problems with patient care. For one thing, there is not nearly enough attention to preventive efforts. Too much time and energy are needed to cope with existing crises. For another, the beneficiary of the program or treatment is concerned almost exclusively with the results and only casually with what it takes to get them. For a third, the costs are apt to be higher than it might seem they should be. And for a fourth, sound and extended effort is really no guarantee of a good result.

As a medical public relations director, I cannot treat a cold or a cancer, deliver babies, prescribe pills, read an x-ray film or even collect a fee. Despite these disabilities, I have come to know something about the way medicine is practiced, what it can do and why it costs so much. These factors can be understood by laymen. Some of us have spent considerable effort to learn about the economic side of medicine. So have some people who are critical of medicine.

In a broad sense, it is my task to try to influence the forces which affect medical practice. These forces include the physician and his train of paramedical resources, as well as government and the many "third parties" whose interests are primarily economic.

*Presented to the House of Delegates of the S. D. State Medical Association, May 31, 1964.

**Director of Public Relations, American College of Radiology.

It is my task to tell your many publics what you want known about your profession. It is also my task to learn what your patients think about the medical profession and why they think it.

What many of them now think is that there may be a better way of financing medical care than the traditional fee for service.

To an amazing extent you have come to agree with this. That is to say, paradoxically, that the patient should not have to pay a fee but you still would like to collect one. Inherent in this is the premise that paying for the costs of sickness is another aggravation of the weakness and inconvenience of being sick. Yet, dealing with the problems of sickness is your profession and you are certainly entitled to a reasonable and reliable compensation for your services.

The concept of good health has gained general acceptance as a basic right in our country, along with the right to vote, to pay taxes, to operate a business and to enjoy equal opportunity. From this, political and social organizations have moved to assume responsibility for providing and paying for appropriate health services — your services — on the basis of their own understanding of the need and the presently "inadequate" resources to meet it.

A substantial portion of the investment in modern medicine is in the facilities and paramedical personnel thru which your skills and services are applied. We all know the costs of hospital building, of radiology offices or departments, of rising personnel costs, of drug research and of the very administrative superstructure required by the complexity of everything else. We know, too, that many of these costs have never been related directly to the person benefiting from the services received. The medical profession has always maintained that hospitals, medical research and certain public health services are a community benefit and can be supported appropriately by public funds and philanthropy.

You exclude individual health care from physicians. There you draw a line which is bold and clear to you but fuzzy and inconsistent to many of your patients and to those who seek to represent them as purchasers of medical care.

This is a fundamental inconsistency of your problem. Medical care increasingly is purchased by groups for consumption by individuals. And while most people resent the cost of illness during or after it, they are pleased by their foresightedness if they were able to make adequate provision in advance. This led to the rise of health insurance, or, more accurately, prepayment.

The concept of prepayment is a tremendous psychological one if used to advantage. In general, you have accepted it, though not willingly. But within the approach lie many alternatives of direction, operation, costs, comprehensiveness and objectives which you can and must influence as purveyors of the basic commodity, medical service.

So, if you would be paid for medical service on your own terms, you must persuade your patients that **their** interest is served best by doing it **your** way. You must answer the patient's question "What's in it for me to let you practice medicine on your own terms?"

You must say more clearly what would be lost to patients by a radical change in the system of free enterprise medicine. You must be as specific as possible. Those who suggest changes are not frightened by words like "socialism" and "welfare state" or attracted to the warm glow of a "happy doctor-patient relationship."

Suppose I said to you as a husband, father, taxpayer and sometime patient, "What's in it for me in free enterprise medicine? How does this compare with the benefits promised by government programs? What can you do to make your system work better for me?"

These are tough questions but they must be answered, not from your viewpoint but from the patient's. In short, you need to find the customer appeal and sell that. Let's find some customer appeal in your point of view. It has not been emphasized enough.

Let's take first the matter of high costs of medicine. It may be true that medicine is not out of line with the general cost of living. What is more important is that modern medicine can and is doing more for the patient for his money. He gets more, and it does not take as long for him to benefit.

Avoid the mistake of pointing to hospital bills and drug costs as a contrast for the moderation of physician fees. These are a part of the service which you control and are used at your discretion, not the patient's. If there is a quicker or more reliable or less expensive way to provide medical service, surely you should know and use it.

The costs of building and equipping modern hospitals, of developing better drugs, of training technicians, nurses and other special per-

sonnel, of having it all available when needed, are necessary for you to use in the patient's behalf. If such expensive resources are poorly planned or badly used, the responsibility is yours to make them right. That is, the responsibility for all this is yours if you want to keep on being captain of the team and not just one of the players.

Medicine could make an even better job of explaining how the complex facilities of modern health science are made available to patients thru their doctor. It could point out what elements of care account for what part of the total expenditure, and why. If some of the elements are out of line, as in the case of unnecessary hospitalization, organized medicine should be the first to try to correct this.

Let's look at the difference between the doctor's compensation and all other medical costs. As noted above, the medical profession has encouraged the notion that medical research, hospital construction, mental health, certain types of preventive medicine and even care of the indigent are all community responsibilities. However, the medical profession has always maintained a leading role in the planning and use of these facilities. One of the main tenets of medical ethics has been that the physician has not sought or expected to receive compensation for this leadership.

It is possible to calculate for a given population group how many persons will be sick and in need of given medical facilities at any specified time. It is even possible to predict the kinds of illness and how long they will last, on the average.

What is not possible is the calculation of who will be sick, for how long and with what kind of illness. In addition, it is not possible to estimate that patients with the same general condition will respond to the same treatment. Nor is it even possible to assure that a given patient will respond to any treatment.

Thus, we come to the very special and very vital matter of the physician's fee. Despite my notion that people resent paying for being sick, most of us do believe in paying for services or goods received. We do believe that what is worth having is worth paying for. And we do believe that quality is somehow related to price.

We usually are willing to pay more for custom service and for emergency service than for routine treatment.

So if the concept of a physician's fee is presented more in terms of his service at a fair value than in terms of its necessity to the patient, it may be more palatable. This allows the physician to point out that he is able to contribute his service at no charge if he chooses or to reduce or postpone the charge as he may elect.

This is the element of human relations in the fee system. It is not wise nor valid to explain that a physician will give better care for a fee. If that were true, the whole basis of medical practice would be more vulnerable than it is now.

The matter of fees is tied inextricably to the matter of prepayment. Altogether too many prepayment mechanisms suffer from fine print. The scope, type and location of benefits are circumscribed so that the term "coverage" is grossly misleading.

The medical profession has a pressing need to explain the principle that no prepayment or "insurance" program can pay out more than it charges. It needs to explain that doctors should not have to justify their treatment for the purpose of collecting a bill. Likewise, there should be no reward for the doctor or patient who attempt to profiteer on health care payment programs. It may be that the medical profession should abandon the concept of "first-dollar" coverage and endorse a deductible clause. This might be a reasonable approach. It might take the tack of offering service coverage, as some county societies have done. I do not attempt to offer a positive answer here.

Whatever it chooses to do, the medical profession must abandon the posture of objection and take a firm leadership in selling its position. It must point out that the best interests of the patient in quality, availability and cost of medicine are compatible with a system which allows the doctor financial freedom. It must make certain that most Americans can pay for the type of medical care they demand and need. And it must make special provisions for those population groups which cannot pay for any care.

At the same time, it is worth pointing out that the patient can lose certain advantages in any standardized system. Few of us like standardization of our own affairs, least of all when we are sick and anxious.

Thus, while a system would not necessarily detract from the quality of medical care provided, it certainly would detract from the circumstances in which it is provided. These are important, both psychologically and physically.

A different system of payment would not add additional doctors for needy areas. A less rewarding one might well detract from the recruitment of new doctors. It would unavoidably add to the overhead of medical costs. And if it did not lessen the quality of care, it might lessen the doctor's desire to take on extra patients or to budget his time for research and teaching.

Opposed to all this thinking is the very real fear of many Americans that they cannot afford and cannot get the medical care they now need or expect to need in their old age. They are encouraged to think that a new system, probably involving government subsidy, would eliminate that fear. This is a powerful and not entirely groundless argument.

The validity of your objections to such a scheme may be academic. The crux of the issue is your ability to persuade your patients, individually and as a group, that your interest in free medicine and their interest in good medicine are fundamentally the same.

In this context, you have a viewpoint to sell. It is worth selling. It can be sold if you first of all believe in it and act to realize it. It can be sold secondly if you make the best possible use of the tools of public relations to communicate your message. As you notice, the second one, persuasion, must follow the first one, belief and action. As a medical public relations man, I have an obvious role in the second phase and an implicit one in the first one.

As a citizen, a taxpayer and a patient, I have a vital stake in your future only slightly smaller than your own stake in it. I am concerned with your future because I am not persuaded that the American people are convinced that you know your own business best. I am not persuaded that they think you know how to manage the economics of medicine in their best interest. I am not persuaded that they think your first concern is for their interest. This is a critical challenge. Medicine is capable of responding — but not with halfway measures — not with stereotyped thinking — and not with words alone.

If there is the most good to be found for the American people in keeping basically a free system of medicine, tell it to them in response to the patient's question: "What's in it for me?"

STATEMENT OF OWNERSHIP

The South Dakota Journal of Medicine and Pharmacy is published monthly at Sioux Falls, South Dakota, in the headquarters of the publisher, South Dakota State Medical Association, 711 North Lake Avenue, Sioux Falls, South Dakota. R. E. Van Demark, M.D., of the Sioux Falls Clinic Building, Sioux Falls, South Dakota, is the Editor. South Dakota State Medical Association is the Publisher. The publication is owned by the South Dakota State Medical Association, a corporation. There are no bondholders, mortgagees, or other security holders.

Signed: R. E. Van Demark, M.D.

MULTICENTRIC CARCINOMA—

(Continued from Page 21)

and partial vulvectomy, followed by reconstruction of the vagina seven and one-half months later.

4. When carcinoma of the cervix, vagina or vulva is present carcinoma must be sought for in the other two organs and these organs carefully observed for malignancy during follow-up examinations using cytologic screening, Lugol's staining and biopsy.

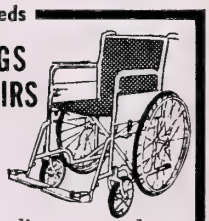
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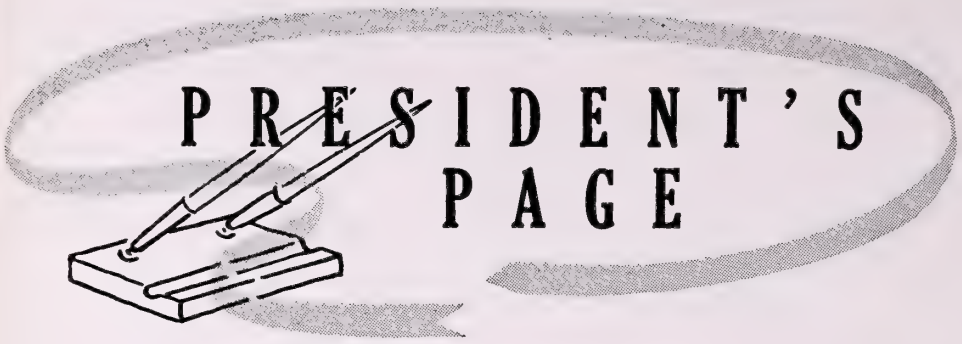
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Dear Fellow Members:

Late this summer I had a visit with the South Dakota Board of Medical and Osteopathic Examiners in order to find out more about their function and activities. Strange as it may seem, I reached the position of President of the State Medical Association without fully understanding all that has been and is being done by this group that works so hard to protect our rights to practice medicine, and watches over the standards we have tried to set. I can only assume that if I had so little knowledge of these functions and activities, there may be others in the State who are equally uninformed. We sometimes get the idea that the Board of Medical Examiners does not do very much, and may be somewhat lax in its duties when we see some of the things that go on around the State. However, a review of the functions of the Board in the last four years from May, 1959, to June, 1964, reveals some very interesting statistics.

The Board has licensed 81 physicians by examination and 75 physicians by reciprocity, for a total of 158 new licenses granted in South Dakota during that time. The Board has revoked 4 licenses and placed one doctor on probation. They have had 10 regular meetings and four special meetings, for a total of 14.

It might be informative to remind you that the Board of Medical Examiners is appointed by the governor, and is responsible to him under our present legislative organization. They must submit a detailed report to the governor every two years. The report includes the minutes of the Board meetings and the financial condition of the Board. As you know, the Board finances its own operation and there is no tax money used to support it. The Board of Medical Examiners is, in fact, separate from the Medical Association and need not give any details of facts and figures to the South Dakota State Medical Association.

Like other such Boards, the Board of Medical and Osteopathic Examiners does not have the power to start investigations or go about the State digging up cases of improper or unethical practice. This is not their function, and this is as it should be. Before the Board of Medical Examiners can act, there must be a complaint filed by some responsible individual. Upon receipt of such complaints, the Board will then have the use of several types of investigation to examine the complaint and take whatever action it may deem fit. I think it can be said for the Board that they have diligently and sincerely investigated all complaints received. If there is any deficiency in pleasing our medical society, it is due to the members themselves not supplying the information and complaints to the Medical Examiners. From what I know of their activities, they have done an excellent job in the past in handling all complaints received by them.

Therefore, if there is a feeling that the level of medical practice may not be as good as it should be, or that there are undue numbers of instances of unethical and immoral practice, it is incumbent upon the individual members of the Medical Association to bring these complaints to the attention of the Board. None of us enjoy tattling on our neighbors. However, the medical profession is the only group able to properly judge the standards of medical practice. Therefore, if we are to keep our standards high, it must be done by each of us individually.

Fraternally yours,

James P. Steele, M.D.

President

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverb

Everyone ought to read the Bible, and Omar Khayyam.

NEWS NOTES

Dean W. L. Hard of the University of South Dakota School of Medicine will be on leave of absence from his position from September 1st until March 1, 1965.

Dr. Hard will be doing research and study in the field of cytogenetics at the Genetics Unit of the Nebraska Psychiatric Institute, University of Nebraska School of Medicine in Omaha.

The leave is sponsored by a special institutional grant from the United States Public Health Service.

* * *

Two hundred and fifty-two persons attended the one-day workshops on tuberculosis nursing at Pierre on July 7, Mitchell on July 8, Watertown on July 10, and Rapid City on July 21.

The workshops were a project of the Interorganization Committee on Tuberculosis Nursing of the South Dakota League for Nursing and the South Dakota Tuberculosis and Health Association. They were presented by the South Dakota State Department of Health and the South Dakota State University.

* * *

Announcement is made of the appointment of **Warren L. Jones, M.D.** of Sioux Falls, as Assistant Dean in charge of clinical affairs in the medical school program.

———

TURNER ELECTED FELLOW

Charles R. Turner, M.D., of Brookings was among 200 physicians from throughout the United States who received the degree of Fellow at the 29th annual convocation of the International College of Surgeons held in Chicago recently.

Ruth Czajkowskyj, M.D., of Veblen, South Dakota, has been designated as the official American Medical Association representative to the 18th Annual Meeting of Austrian Physicians to be held in Vienna, Austria, October 19-24, 1964.

———

INTERNAL MEDICINE SOCIETY ELECTS OFFICERS

At their recent meeting in Sioux Falls, the South Dakota Society of Internal Medicine elected the following officers: **Dr. C. J. Clark,** Watertown, president; **Dr. J. W. Argabrite,** Watertown, president-elect; **Dr. C. F. Johnson,** Yankton, secretary-treasurer; and trustees: **Drs. Clifford Gryte,** Huron; **Clark Johnson,** Yankton; and **Warren Jones,** Sioux Falls. **Dr. T. H. Sattler** of Yankton is South Dakota governor of the American College of Physicians.

14 Man Iowa clinic group needs third Generalist in busy family practice section. This situation would be especially suited to a Generalist who has become tired of solo practice and who would like the benefits of a group association. Partnership in two years. Write Box A2, South Dakota Journal of Medicine, 711 N. Lake, Sioux Falls, S. D.

NEEDED — General Physician—Family Internist by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range $14,000-$18,000 depending on qualifications. Box A3, S. D. Journal of Medicine, 711 N. Lake Ave., Sioux Falls, S. D.

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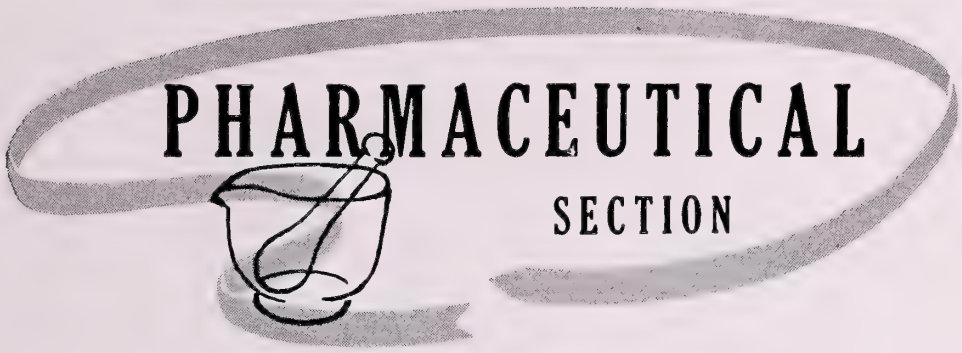
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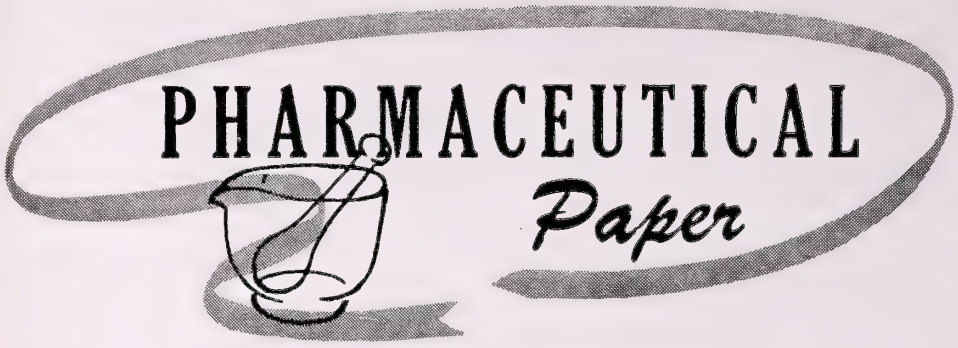
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EDITOR
College of Pharmacy
South Dakota State University
Brookings, South Dakota



PESTICIDE RESIDUES — A PROGRESS REPORT*

by

J. Kenneth Kirk**

First, I bring you greetings from Commissioner Larrick. He recalls very pleasantly his meeting with you in 1962 at Battle Creek, and would have liked to make a repeat appearance today, but unfortunately had a prior commitment to be in Miami at an international meeting of toxicologists.

You will recall that in 1962, Mr. Larrick discussed pesticide residue problems extensively and took a look into the future with relation to this important problem. Thus, it would seem fitting and proper to bring you up to date as to what has developed in this area from our point of view.

In May of 1963, the President's Science Advisory Committee issued its report on pesticides. Since this received such widespread distribution, there is probably no point in going into its details. The report, however, contained a number of recommendations affecting the Food and Drug Administration, and here is what we have done about them:

First, the committee endorsed and recommended a speed-up of the then pending review of scientific data on which we had, up to that time, established safe legal tolerances or exemptions from tolerances for over 125 pesticide chemicals on some 2500 crops. This review has been largely completed and in the light of present-day pharmacological knowledge, some of which was not available when many of the original tolerances were established in 1955, we have classified our present tolerances into four categories:

1. The tolerances are sound and need no further work or revision at this time.

2. The tolerances are not based on all of the evidence which would be required today, but the deficiencies are such that those who sought the tolerance in the first place should be given an opportunity to get up-to-date data (certainly before any additional tolerances for the same chemical are granted).

3. Our scientists have reviewed the data available and decide they need outside help, such as the advice of a group from the National Academy of Sciences. No action is taken pending the report of that group (e.g., aldrin and dieldrin).

4. Our scientists have concluded that the evidence is grossly deficient by present-day standards and the tolerances are not supported. We should make our proposal to rescind the tolerances. We did in the chlordane instance, and no other such proposals are currently expected.

We are looking forward anxiously for the report of the aldrin-dieldrin committee particularly, and have reason to believe this will be submitted within a matter of months.

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*Presented to the Convention of the National Association of State Departments of Agriculture, New Mexico State University, August 25, 1964.

**Assistant Commissioner, Food and Drug Administration, U. S. Department of Health, Education, and Welfare.

The President's committee recommended expansion of our total diet studies to determine actual levels of pesticide residues as they appear in foods after normal preparation for consumption. You will recall that for the last few years we have conducted, in the Washington-Baltimore area, a study of the total diet of a typical 18-year-old, and the very low levels of pesticides found are most reassuring, to the extent that the program permitted us to get facts. Unfortunately, this particular study related only to the chlorinated organic compounds and did not cover the organic phosphates, carbamates, and other classes of pesticides.

Starting last spring, however, we were able to inaugurate a new total diet study to cover the foods which are being marketed in three different areas of the country; Boston, Kansas City, and Los Angeles. In each of these areas, our inspectors obtain a typical market basket sample of many kinds of fruits, vegetables, and other commodities which are then prepared for the table by trained dieticians to eliminate variations in food preparation practices.

The foods are then processed by experienced cooks under the supervision of these dieticians and composites of the food, ready to eat, are turned over to our laboratories.

The foods are broken down into 12 commodity groups, with the objective of examining each group separately. In the chlorinated organic area, we are using in this program a multiple detection procedure which will demonstrate the presence of 25 compounds at a sensitivity level equivalent to 0.003 p.p.m. heptachlor epoxide.

We examine each group for organic phosphate pesticides using paper chromatographic and polarographic methods, with sensitivity equivalence of 0.05 p.p.m. of parathion. We will detect six herbicides, if present, and certain carbamates, bromides, and arsenic.

To give you an idea as to how highly we regard this part of our monitoring program, each of the three districts is planning to run six such market basket samples per year, and each district will require eight man months of analytical time, three man days for sample collection, and five man days of food preparation. In addition to the sample cost, we will spend $200 for reagents, and to set up the program called for each unit to invest $40,000 in major equipment, such as gas chromatographs, and $10,000 for miscellaneous glassware, reagents, and the like. The results on the first "baskets" will be available soon.

Incidentally, there is, in some quarters, a misapprehension as to the amount of pesticide residues which are authorized for ingestion by the tolerances which we have established. It must, we believe, be kept in mind that these tolerances are established on the basis of the commodity as introduced for shipment into interstate commerce, and that normal trimming, peeling, washing, and cooking has a material bearing in reducing the levels actually ingested.

In our planning book we have a program for two additional districts to be added to this total diet study just as soon as funds can be made available.

The committee recommended that the National Academy of Sciences — National Research be requested to study the technical issues involved in the concepts of "zero tolerance" and "no residue." A joint request for such a study was made by the Secretary of Health, Education, and Welfare and the Secretary of Agriculture, and the Academy has been most cooperative in dealing with this.

An outstanding committee has been established by the Academy. This committee has already had one meeting to get the background of the problem. We are advised that the committee contemplates at least two more meetings and has a target date of December 31 to submit its recommendations. This is, in our opinion, a very important area which needs resolution.

Under the law, we are authorized to set a finite tolerance for pesticide residues where evidence is submitted to demonstrate the safety of food bearing that amount of pesticide. In the absence of such evidence, however, the tolerance is automatically set at zero. As you recognize, there is no difficulty in considering zero when we talk about money. It is quite easy to put your hand in your pocket, find it empty, and conclude you have zero dollars. Scientifically, it is a very difficult thing to prove you have zero residue, since this resolves itself to the accuracy and sensitivity of the particular method of analysis you are using.

With present equipment and techniques it is possible to detect many pesticide residues in terms of parts per billion or even fractions of a part per billion if sufficiently large samples are taken and extensive time is devoted to the

examination of the samples. The FDA, however, is not interested in detecting insignificant amounts of pesticide residues as an exercise in scientific excellence. We have no interest in determining residues in our regulatory samples at a level below that which our scientists believe would be of no pharmacological significance. However, we are making no predictions as to what recommendations the advisory committee may have on this point, or whether implementation of the group's findings will call for new legislation.

The committee recommended better coordination between the different Departments of Government involved in pesticides, and a short time ago the Secretaries of Health, Education, and Welfare; Agriculture; and Interior entered into formal agreement whereby actions of any one unit in this area would be taken only after consideration by the other units.

Thus, for example, we will not issue tolerances for pesticide residues without clearance by the other two Departments, whereas on the other hand, the Department of Agriculture will not issue registrations for pesticides on a "no residue" basis where any food crops may be involved without first clearing with the FDA. Our scientists thus have an opportunity to decide whether, in their opinion, the data adequately justifies such action and demonstrates that, when used as reasonably expected, the pesticide will not result in a commodity in conflict with the Food, Drug, and Cosmetic Act.

Our program of reporting results of each raw agricultural commodity examined has grown by leaps and bounds. Initially, we contemplated that a report would be submitted only to the grower and to the state regulatory official in the state where the product was produced.

As word got around that we had this service, we received requests from Extension Service people, from shippers, canneries, and consignees, so that we have authorized our districts to send a copy of each report to anyone who has a legitimate interest in the particular shipment and who has asked for such copy.

Going next to our day-to-day activities, we have an objective of sampling and examining a minimum of 25,000 lots of raw agricultural commodities, this being about 1% of the estimated 2½ million shipments of such items made each year.

In the past two years, this goal has been exceeded. These samples are collected from farms, packing houses, trucks, railroad cars, and ultimate consignees. They involve lots which are collected on a surveillance basis, with no prior knowledge of whether or not the pesticides were used properly, and lots which were definitely listed for sampling because our inspectors had some reason to believe that either the wrong pesticides were used, or the pesticides were used at a heavier dosage or without weathering time before harvest.

We continue to urge that growers read and heed the label on the pesticide as registered by the USDA. Any use contrary to such recommendations automatically makes us suspect the legality of the crop involved.

During the fiscal year which ended on June 30, 1964, we instituted 42 seizure actions because of the presence of non-permitted or excessive pesticide residues. Thirty-four of these were raw agricultural commodities as follows:

4 lots of cabbage — Toxaphene
1 lot of cabbage — Endrin
3 lots of carrots — Endrin
1 lot of parsley — Endrin
1 lot of bibb lettuce — Endrin
3 lots of potatoes — Aldrin and Dieldrin
2 lots of cauliflower — Endrin
1 lot of broccoli — Endrin
1 lot of shell eggs — DDT and DDE
1 lot of alfalfa hay — Toxaphene and DDT
1 lot of alfalfa hay — DDT and DDE
1 lot of alfalfa hay — Dieldrin
1 lot of alfalfa hay — DDT and Heptachlor Epoxide
3 lots of barley — Mercurial Fungicide
10 lots of wheat — Mercurial Fungicide

In addition, there were eight seizures of processed food, based on finite residues, but in these cases the actions were taken under the Food Additives Amendment. These were:

1 lot of flour — Lindane and Methoxychlor
3 lots of cheese — Dieldrin
1 lot of cheese — DDT
3 lots of frozen broccoli — Endrin

But these figures by no means tell the whole story. For example, in two states difficulties arose with carrots found to bear illegal residues of the pesticide Endrin. This pesticide had not been applied to the carrots, but the contamination resulted from planting this crop on land

that had formerly been used for other crops on which Endrin had been used. The state officials involved did have equipment and programs which permitted extensive tests of the carrots — before harvest — and thus pinpointed the acreage that would be illegal. There is no question but that this action by the state kept many lots of illegal carrots off the market — both intrastate and interstate.

The FDA is strongly of the view that it is essential that this type of preharvest and pre-marketing testing is a necessity if the pesticide problem is to be dealt with to give the best consumer protection. We recommend that all of the state officials who do not have facilities for this type of checking give the need their most thorough consideration.

In the milk field, where we have no finite tolerances and thus an automatic zero tolerance for every pesticide, in FY 64 we examined 4,352 samples, finding 315 to contain residues exceeding our methodology limits. These limits are, in the case of DDT, 1.25 p.p.m. in the fat, and for aldrin, dieldrin, heptachlor, heptachlor epoxide, and endrin, 0.25 p.p.m. in the fat.

These samples were collected from the output of 48 of the states, and present some very interesting and bothersome results. Out of the 315 violative samples, all but a few were based on the presence of dieldrin, heptachlor, and heptachlor epoxide. We broke these down by our 18 district offices and found that all except 14 of the 315 violative samples were accounted for by six districts, with the most violative samples in the following order: Baltimore — 103, Denver — 91, Philadelphia — 65, Buffalo — 20, Minneapolis — 11, and Dallas — 11.

We made no seizures of the fluid milk, but rather, reported our results to the state and local officials. In one area, the cooperative which purchases milk voluntarily cut off producers' milk which was found to have excessive residues, and in others, the local officials took the same action, refusing to permit the marketing of the farmers' milk until further examination had shown satisfactory residue results.

As might be expected, such actions have caused a great deal of consternation on the part of the dairy industry involved, particularly where it has been demonstrated that the pesticide contamination is the direct result of feeding such items as alfalfa carrying heptachlor and dieldrin residues.

The Department of Agriculture has taken steps to cancel registrations for uses of dieldrin and heptachlor which appear to be causing these residues, but the growers have on hand very substantial amounts of hay which may cause trouble.

You will be interested in the action of the Maryland state officials where the University is examining hundreds of samples of hay throughout the state and is advising the farmers, on the basis of the results found, whether the hay may be fed to producing dairy cattle on the usual basis, or whether the results indicate it should be fed in lesser quantities, or, in some cases, not at all.

We have met with the National Milk Producers Federation representatives from all over the country and have been very gratified with the willingness of that organization to do everything possible to clean up this situation.

We have recently heard that some responsible people believe that in the case of milk, we had a methodology limit of 2.5 p.p.m. in the fat for aldrin, dieldrin, endrin, heptachlor, and heptachlor epoxide, equivalent to 0.1 p.p.m. in the whole milk, up until last October, and that we suddenly reduced this ten fold to 0.25 p.p.m. in the fat, or 0.01 p.p.m. in the milk. This definitely was not the case.

As an example of how this obviously could not be so, let us take heptachlor and heptachlor epoxide.

We formerly had a legal tolerance of 0.1 p.p.m. for heptachlor in alfalfa. When we found this was producing heptachlor epoxide in the milk of cows fed heptachlor treated alfalfa, we took formal action over four years ago to cancel the alfalfa tolerance and it has been zero since that time. Thus, those who maintained that we had an unofficial limit of 0.1 p.p.m. for heptachlor and heptachlor epoxide in milk are, in effect, saying that the action which we took on the alfalfa was nothing more than a gesture. As stated, we have always been willing to advise inquirers of the sensitivity of the methods we are using. We did so in the case of DDT in milk, this figure being 0.1 p.p.m. until last October when we changed it to 0.05 p.p.m. We had never stated that these figures applied to heptachlor, heptachlor epoxide, aldrin, dieldrin, and endrin residues.

In other words, we have considered the animal feeding data in determining what sensi-



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tivity to use in examining samples of milk for pesticide residues, and since the data varies between pesticides, it is not proper to try to use a single figure. The animal data on the five pesticides just mentioned clearly does not, in the opinion of our scientists, warrant a conclusion that the milk would be safe if it contained these residues in an amount of the order of 0.1 p.p.m.

There is a feeling in some quarters that when we encounter violative shipments of commodities bearing or containing illegal pesticide residues, that seizure of the offending goods will close out the matter. This definitely is not the case, because where we find that those responsible for the violative shipments deliberately misused pesticides, or had other reason to expect that the products they were marketing would be in violation of the law, we must give consideration to whether or not criminal action is called for.

Just last month we received a report of termination of a criminal action involving a number of shipments of endive and radishes carrying parathion residues very much in excess of the 1.0 p.p.m. tolerance. The firm entered a plea of guilty to four counts of the information and the court imposed a total fine of $4,000.

On other fronts, the survey of state laws and responsibilities by the Public Service Administration is still under way, and we are looking forward to the final report of that group. Meanwhile, the Department of Health, Education, and Welfare has taken no definite action on proposals, including those in the President's Science Advisory Committee report, dealing with possible grants-in-aid to the states.

Regardless of the nature of this report, there is no question whatsoever in our minds but that protection of the consumer in this most important area involving pesticide residue problems is a job which must be attacked on both the state and federal levels. Where the state officials are able to get the facts and stop the marketing of illegal crops in their own states, this cannot but have a very beneficial effect in keeping those commodities out of interstate commerce, and thus will enable us to do a better job in controlling those commodities which do move across state lines. Complete cooperation in this area is vital, and we want to do everything we can to further our mutual objectives.



STATEMENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION ON ANTITRUST AND MONOPOLY*

by

William S. Apple**

When the American Pharmaceutical Association was founded in 1852, one of its first tasks was to establish a Code of Ethics to govern its member pharmacists. This Code of Ethics provides that:

> "The pharmacist considers it inimical to public welfare to have any clandestine arrangement with any practitioner of the health sciences by which fees are divided or in which secret or coded prescriptions are involved."

Through several centuries, business relationships between physicians and pharmacists have been forbidden. This prohibition is a recognition that where the professional practice of an individual may have an influence on the economic success of a proprietary venture, the best interest of the patient may not be the primary factor in selecting either the medication prescribed or dispensed. The Genoa Legal Code of 1407 stated:

> "We fix and ordain — to prevent any pharmacist from having temptation or reason for sinning, and to keep prices from being raised higher than is becoming — that no pharmacist may keep shop in partnership or agreement with any physician. All pharmacists must swear an oath before the Masters of the Craft, each year, to observe completely and precisely the letter and spirit of this prohibition."

While the history of the relationships between physicians and pharmacists is informative and reveals a continuous effort to effect a complete cleavage of the economic ties between them, in the interest of conserving time we turn our comments to the contemporary situation and the events leading up to it.

In the early history of our country, it was quite common for physicians to dispense the medication required by their patients. With the development of pharmaceutical education and the science of pharmacy, our profession provided highly trained pharmacists in the communities to render professional pharmaceutical services to the public. Around 1930, the professions of medicine and pharmacy initiated cooperative efforts to educate physicians on the value of utilizing the services of pharmacists to provide medication for patients and to point out to physicians the advantages of not becoming involved with the dispensing of drugs.

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*Statement to the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary of the United States Senate, 88th Congress, 2nd Session, Washington, D. C., August 13, 1964.

**Executive Director of the American Pharmaceutical Association.

As we all know, 1940 brought on the era of specific and highly potent chemo-therapeutic agents for the treatment of disease and illness. These new additions to the medical armamentarium were also more costly than their predecessors, and the cost factor played a significant role in curbing the dispensing of drugs by physicians.

Many physicians found that it was advantageous to eliminate costly inventories of drugs, and that the practice of prescribing needed medication added to their professional stature. Prescribing also freed the physician from the limitations of his inventory, and made it possible for him to select the drug that would best serve his patient.

As a result of the trend for physicians to diagnose and supervise the treatment of disease and illness and the shifting of the responsibilities for dispensing medication to pharmacists, pharmacists found increased opportunities to utilize their professional training. Had this trend continued unabated, the public might now enjoy the economic benefits of an independent profession serving at near optimum capacity. But many forces have disrupted this trend.

While most of the pharmaceutical manufacturers were content to concentrate on research and product development during the past quarter century, many repackagers and mail-order operators concentrated on converting the prescriber to a dispenser. This and other factors eventually led to physician ownership of repackaging firms. In reporting to our House of Delegates last week, the APhA Committee on Social and Economic Relations noted that some manufacturers are again pursuing a policy of encouraging physicians to personally dispense certain drugs directly to their patients. These practices undermine the profession of pharmacy and in no way serve the public interest.

As physicians began giving up their dispensing practices, pharmacy noted a reverse in the trend of physician ownership of pharmacies. A century ago, the majority of the drug stores in the United States were owned by physicians. Around 1940, physician dispensing rather than physician ownership of pharmacies was the dominant problem. Since World War II, the "ownership" trend has been pharmacy's first interprofessional concern.

Some physicians have found "ownership" a more sophisticated way of profiting from their prescribing activities without involving themselves directly with the problems encountered by dispensing. Some physicians find that if they own a pharmacy and employ pharmacists at a salary, or own a share of a pharmacy, they have the advantage of the professional services of a pharmacist and can still share the pharmacist's fees. The physician-owner can participate fully in the management, operation, fees, and profits of the pharmacist's professional practice without the knowledge of the patient.

Imprinted prescription blanks, coded prescription orders, direct telephone lines and other contrivances virtually assure that all patients of the physician-owner will patronize the pharmacy of the physician's choice. The patient is an unknowing captive of a monopolistic design.

During the past decade, we have intensified our discussion of these practices with the leadership of the American Medical Association. In some cases, the AMA House of Delegates has declared certain individual practices to be unethical, but not ownership **per se.**

As each of these nefarious practices developed, the profession of pharmacy also worked to combat them through codes of understanding, codes of ethics, and state legislation. In many of the states, the pharmacy practice acts make participation in coded prescription schemes, direct phone lines, kick-backs, imprinted prescription blanks, and similar practices unlawful.

With the passage of time and with experience, those who wish to circumvent the spirit of ethical and legal requirements can often evade the letter. Some of the practices which have been previously exposed and declared unethical and/or illegal have reappeared in modern forms.

During the past decade, the pattern for providing medical care has also changed significantly. There is a marked trend for physicians to associate themselves in group practices and in clinic facilities. This has created new opportunities for undesirable arrangements between physicians and pharmacists. Pharmacists have been induced to move their practices from Main Street to the clinic site. In most instances, the only alternative to becoming an employee of the physician is the percentage lease. In either case, the patient is exposed to probable economic exploitation.

As an example of what we are talking about, permit me to briefly describe a recent case reported to us. In a town of 5,000 people, three community pharmacies were operating to serve the pharmaceutical needs of the citizens. The six physicians in the community were not dispensing their drugs but were writing prescription orders. Each patient had complete freedom of choice to patronize any of the three pharmacies based on the patient's own criteria — service, cost, or any other factor important to the individual patient.

The health care atmosphere which had developed in this community was reasonable and beneficial to all. Patients had a free choice of the physician they wished to consult and could exercise complete freedom of choice in obtaining pharmaceutical services.

Last year, the six physicians decided to establish a group practice and build a medical building which would include a pharmacy. The physicians invited each of the three pharmacists to submit bids on the lease for the pharmacy in their building. They made it quite clear that the lease would be awarded to the highest bidder. The basis of the bid would be a percentage of the total gross receipts of the pharmacy. Two of the pharmacists flatly rejected the offer because they felt a pharmacy in the clinic under such arrangements would not be in the community's interest and would be a violation of pharmacy's Code of Ethics. The third, however, decided to take advantage of the opportunity and currently is operating a pharmacy in the physicians' facility.

After only a matter of months had elapsed, the other two pharmacists in the community began to find their opportunities for professional practice severely curtailed. These pharmacists discussed the matter with individual patrons whom they had served for years. They discovered that the physicians had an arrangement with the pharmacist in the medical building whereby it was almost impossible for a patient to leave the physician with a written prescription order.

If the other two pharmacists move out of the community, the physicians will have a monopoly. If the pharmacists remain, they must endure not only an economic hardship, but the frustration of being denied the opportunity to practice their profession.

There are approximately 16,500 communities of 5,000 persons or less in the United States where the same pattern could repeat itself. It exists in a sufficient number of communities of 5,000, 10,000, and even 100,000 for the American Pharmaceutical Association to be deeply concerned.

The trend toward physician ownership of pharmacies is being accelerated by business management groups in this country which have encouraged and assisted physicians in establishing group practices and erecting their own medical buildings. As a selling point, these advisors frequently stress the opportunity to amortize the cost of the structure by including a pharmacy. Using hospitals as an example, they convince physicians that the profits from a pharmacy can carry the building cost load. Naturally, when physicians become involved in such a plan, they have little choice but to make the pharmacy as profitable as possible.

Interestingly, it is the professional management group which has most effectively opposed the efforts of some AMA leaders to resolve this interprofessional issue.

The Committee is already familiar with the fact that some physicians own drug repackaging firms. This is another recent development whereby physicians benefit from their prescribing activities without having direct ownership of any pharmacy. Here, the physician has no arrangement with the pharmacist directly and gives his patient complete freedom of choice in selecting his pharmacist. However, the physician controls the medication the patient receives and by prescribing products distributed by his own firm, he is assured of profits from his prescribing activities.

Under law, a pharmacist must dispense exactly what the physician has prescribed. The repackaging firms may enter into exclusive dealing arrangements with selected pharmacies in a given community in an extension of this practice, but this is not really necessary for the success of the firm. Where an exclusive dealing arrangement is established to induce a pharmacist to purchase stock in the repackaging firm, the net result is a direct channeling of all prescription orders for the drugs to a given pharmacy.

In 1962 and 1963, when the American Pharmaceutical Association pointed out that the ownership of drug repackaging firms by physicians was inimical to patient interest, the American

Medical Association promptly declared that "It is unethical for a physician to have a financial interest in a drug repackaging company," and that "It is unethical for a physician to own stock in a pharmaceutical company which he can control or does control while actively engaged in the practice of medicine."

During 1958-1961, pharmacy sought medicine's cooperation in combating the percentage lease method of fee splitting. It is now the official position of the AMA that "The rental of space by a physician or group of physicians as a pharmacy should be a fixed one. Were the rental to be based on the amount of business, it might well be argued, and indeed be the case, that fee splitting existed. In addition, the temptation would be ever present for the doctor-owner to encourage patients to take their prescriptions to that pharmacy. The evils inherent in such practice are too obvious to be mentioned."

When a pharmacist and a physician are involved in a given practice which is unethical for either practitioner, then it must follow that the practice is unethical conduct for both practitioners. We cannot see a situation which would be unilaterally unethical. For this reason, the American Pharmaceutical Association has been meeting with the American Medical Association to develop a physician-pharmacist code of understanding. We believe that such a code, if adopted by both national associations, would provide a strong influence on state and local component societies in taking appropriate action where both professions are involved. But such interprofessional disciplining would require conscious parallel action.

Admittedly, there are economic questions involved with physician-ownership of pharmacies and this has raised some question regarding the lawfulness of a physician-pharmacist code of understanding under the antitrust laws. Questions have been raised as to whether or not efforts to correct infractions of professional matters under such a joint code will be viewed by the Justice Department as a violation of the Sherman Act. In the past few years, the Justice Department has confused professional practices with economic matters. The costs of defending an antitrust indictment and the attendant penalties deter any association or professional society from risking the wrath of the Justice Department even where it involves a good faith effort to serve society.

This Committee will have performed a most useful function in focusing public attention on the physician ownership of pharmacies if the Congress, as a result of the Committee's recommendation, makes it perfectly clear that efforts on the part of the professions to enforce a code of understanding in the public interest will not be a violation of the antitrust laws. In our experience, the penumbra of the antitrust laws relating to the practice of the professions unjustly impedes the resolution of this and other interprofessional problems. Congressional clarification is long overdue.

It is a fundamental concept of society that professional practitioners in any field accept responsibilities in the public interest beyond the minimal standards established by law. The profession of pharmacy and the American Pharmaceutical Association wholeheartedly subscribe to this concept.

We believe that the highest quality of pharmaceutical service can be provided most economically only when pharmacists are free to develop, manage, and control their own professional practices. It is for this reason we oppose physician ownership of pharmacies. Rebates, percentage leases, physician ownership of repackaging firms and physician ownership of pharmacies are all cut from the same cloth — a shroud which covers up practices which are inimical to the public interest. They are all unethical and should be so branded.

The American Pharmaceutical Association has repeatedly stated that the professions have the primary responsibility of protecting the public interest in these professional matters. We assure the Committee that we will continue our efforts.

Mr. Chairman and members of the Subcommittee, thank you for your invitation to appear before you this morning. I will be happy to attempt to answer any questions you may have.

PHARMACEUTICAL EDITORIAL

IN THE BEST INTEREST OF MANKIND

Flagrant touting of distortion and untruth often has relegated the physician from a position of honor and respect to one of suspicion and distrust, stated **Dr. Austin Smith,** president of the Pharmaceutical Manufacturers Association of Washington, D. C. The statement was contained in a speech at the 125th Anniversary Convocation of the Albany Medical Center in Albany, New York.

In outlining the accomplishments of health teams working together, Dr. Smith suggested a Hippocratic oath type policy which drug manufacturers and physicians should follow in the use of drugs.

On the subject of distortion, Dr. Smith said criticism of doctors and the drug industry sometimes is so sweeping that "one wonders if the critic is deliberately ignoring facts." Despite the availability of information on all facets of the public's health, he added, it is ignored at times. "Particularly," Dr. Smith said, "by those who wish to achieve certain personal or philosophical objectives through ignoring or misrepresenting the truth. Unfortunately, this flagrant touting of distortion and untruth has its effect. The physician, long hailed as a healer, personal confidant, and community leader, is now often regarded with suspicion and distrust.

"And the drug manufacturer, praised heretofore as the beneficent source of life-saving, health-giving miracles, now stands accused of wilfully dispensing dangerous and worthless medicine and making unconscionable profits at the expense of the ill and elderly.

"Some public officials and others seem to have become more concerned about protecting the people against drugs and physicians than against disease," Dr. Smith claimed.

He pledged the continuing help of the pharmaceutical industry in working with its natural allies in the health field, with businessmen, with legislative leaders, and others. He said the industry will defend what it believes to be in the best interest of the nation and mankind and will loudly and publicly try to expose fraudulent and deceptive statements "by those who put selfish aims, political or otherwise, ahead of truth and continuation of the medical leadership that this country has achieved."

Concerning the principles which should guide physicians and the industry in handling of drugs, Dr. Smith said:

"The pharmaceutical industry should contribute the tools needed in the health field and should offer them with necessary information and assurances that can reasonably be expected, to those who by training, experience, and intelligence, will use such tools for the betterment of man's welfare. The industry should be expected to respect laws and regulations but it should not be confronted with the unreasonable or unexpected any more than it should have a license to deceive and defraud.

"A member of the medical profession should expect and should receive useful aids to pursue his professional life and should be provided with sound factual information concerning their use. He should have the choice of drugs and other medical aids which the knowledge of his patients' needs dictate for use and he should have the primary responsibility of educating his colleagues concerning the use of health tools in his area of competence."

If a person cannot trust the competence and integrity of his physician and pharmacist, — whom can he trust?

PHARMACEUTICAL NEWS

PHARMACY SCHOLARSHIPS

Announcement of 20 pharmacy scholarships was made by the General Scholarship Committee at South Dakota State University, of which **R. Y. Chapman,** dean of student personnel, is chairman.

Recipients of special pharmacy awards of $150 each were **Roger Bracha,** Rapid City; **Mary Ann DeLay,** Flandreau; **Marvin Schmidt,** Brookings; **John Reinschmidt,** Clark; **Robert Fullenkamp,** Burbank; **David McCullough,** Claremont; **Donald Isaak,** Mitchell; and **David Kuper,** Sioux Falls.

Osco awards of $200 each have gone to **Douglas Carnahan, Mary Waggoner,** and **Robert Frick,** all of Sioux Falls; **Marion Fiedler,** Java; and **Joanne Herman,** Olivet.

Other pharmacy students who received awards included **Vernon Peterson,** Dell Rapids, $198 E. R. Serles Memorial; **William Isaksen,** Springfield, Minn., **Robert Schnell,** Sturgis, and **Loren Schweigert,** Gregory, each a $200 American Foundation for Pharmaceutical Education award; **Timothy Pearson,** Sisseton, $100 Rowell Laboratories; **Norma M. Hanson,** Brookings, $198 South Dakota Pharmaceutical Association, and **Douglas Kapaun,** Sioux Falls, $198 George and Gertrude Fredrickson Foundation.

DIGEST EDITOR LAUDS U. S. DRUG INDUSTRY

Recalling how an antipneumonia serum from Lederle Laboratories saved his life as a college student, **James Daniel,** a roving editor of **Reader's Digest,** praises the life-saving achievements of that company and the American drug industry in "A Report to Consumers" in the October issue of the magazine.

Titled "Threats to the Battle Against Disease," this disputes proposals for compulsory licensing of patents and generic writing of prescriptions and states the Defense Department, Veterans Administration, and some city governments are buying drugs from unlicensed Italian manufacturers "in deliberate disregard for U. S. patent rights."

"Two drug preparations having the same active chemical ingredients may differ significantly," writes Daniel. "A doctor would not give a pill with a sugar base to a diabetic, or one containing a salt to certain heart patients."

Drugs from Italy are cheap, Daniel points out, not only because wages start at 37 cents there as compared with $1.45 an hour in the U. S. industry but Italy has no patent law applicable to drugs and some Italian companies have stolen manufacturing processes.

HARRIS ACCEPTS POSITION AT COLLEGE OF PHARMACY

Wayne G. Harris has been appointed assistant professor of pharmaceutical chemistry at the College of Pharmacy, South Dakota State University. Professor Harris was graduated from Washington High School, Sioux Falls, and obtained his B.S., M.S., and Ph.D. degrees at Purdue University where he has been a graduate student since 1961. He will be in charge of the bionucleonics laboratories at the College. He will also be associated with the dental-pharmacy research program as well as teaching an undergraduate course in biochemistry.

APHA STUDENT BRANCH PICNIC AND DANCE

The APhA Student Branch held a record dance Sept. 18, in the Christy Ballroom at State University. The dance was open to the entire university and was well-attended. Dr. and Mrs. Redman and Dr. and Mrs. Omodt acted as chaperones.

The annual picnic of the APhA Student Branch was held Sept. 22 at Hillcrest Park in Brookings. The picnic offers an opportunity for all pharmacy students and the pharmacy faculty to associate in an informal atmosphere.

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PRO-BANTHINE (propantheline bromide) Assures Authoritative Anticholinergic Control in Gastrointestinal Dysfunctions

The clear and consistent therapeutic benefits of Pro-Banthine (propantheline bromide) have made it the preferred anticholinergic for the past decade.

During that time, many compounds have been developed and proposed as alternatives. In the appraisal of Roach[1] ". . . few, if any, have seemed to offer a distinct improvement, . . ."

Early investigations showed that Pro-Banthine (propantheline bromide) reduces motility and acid secretion and may be used in a wide range of dosage, to bring prompt, positive anticholinergic benefits to patients with peptic ulcer, spastic colon, pylorospasm and related gastrointestinal dysfunctions.

Recent evaluations sustain these earlier judgments. In a current authoritative assessment based mainly on the factors of potency, superiority to atropine, clinical experience and physiologic study, Steinberg and Almy[2] select as the first two preferred anticholinergic drugs, methantheline [Banthine] and propantheline [Pro-Banthine].

The name Pro-Banthine (propantheline bromide) sets a stamp of therapeutic authority on any anticholinergic prescription.

Side Effects and Precautions—Urinary hesitancy, xerostomia, mydriasis and, theoretically, a curare-like action may occur. The drug is contraindicated in patients with glaucoma or severe cardiac disease.

Dosage—The usual adult dosage is one tablet of 15 mg. with meals and two at bedtime; this amount may be doubled or tripled for patients with severe conditions. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

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Research in the Service of Medicine

1. Roach, T. C.: Therapy of Peptic Ulcer, J. Louisiana Med. Soc. *115*:136-139 (April) 1963.
2. Steinberg, H., and Almy, T. P., Drugs for Gastrointestinal Disturbances, Chapter 21, in Modell, W. (editor): Drugs of Choice –1964-1965, St. Louis, The C. V. Mosby Company, 1964, p. 343.

PYLOROSPASM • BILIARY DYSKINESIA • PANCREATITIS • URETERAL AND URINARY BLADDER SPASM • GASTRITIS

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Like umpteen million other Americans, Mr. Ray loves to fish. Unfortunately, in his part of South Carolina, public lakes are scarce.

Not one to be discouraged, he cashed in a few thousand dollars' worth of Savings Bonds and built his own. He has it well-stocked with crappies, catfish, bass and other fish. And an attractive 4-room cottage sitting beside it (also built by Mr. Ray with money he saved in Bonds).

In case you're wondering, Mr. Ray possesses neither great wealth nor superhuman powers as a saver. He accumulated the money for the lake, fish and cottage by joining the Payroll Savings Plan.

Every week the company sets aside $9 from his paycheck and puts it toward the purchase of a $50 Bond every month. His savings build up automatically.

Americans with all kinds of savings goals buy Bonds on the Payroll Savings Plan. And while their dollars build up a nest egg for their future, they help Uncle Sam safeguard our freedom right now.

Must be lots of important things you'd like to have in your future. Why not sign up for the Payroll Savings Plan where you work and see if it isn't the easiest way in the world to save for them?

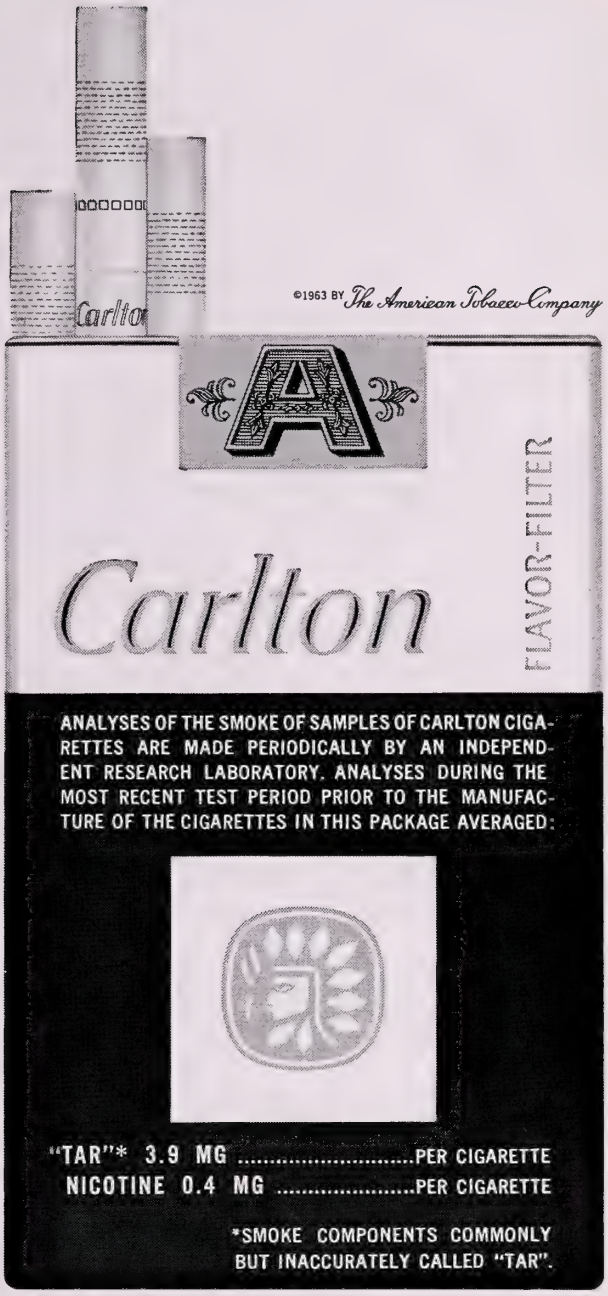
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Each capsule contains:	
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Vitamin B_2 (Riboflavin)	10 mg.
Niacinamide	100 mg.
Vitamin C (Ascorbic Acid)	300 mg.
Vitamin B_6 (Pyridoxine HCl)	2 mg.
Vitamin B_{12} Crystalline	4 mcgm.
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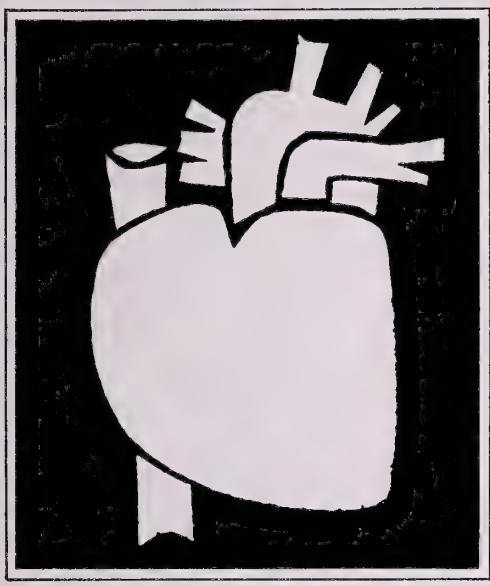
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REFERENCES: **1.** Collicelli, A., and Nardelli, A.: Treatment of angina pectoris with a combination of pentaerythritol tetranitrate and meprobamate. Policlinico (Prat.) **67**:441, Mar. 28, 1960. **2.** Marche, J.: Pentaerythritol tetranitrate (pentrite or pentanitrine)—a coronary vasodilator with prolonged action. J. Med. Chir. Prat. (In French) **121**:252, Nov. 1950. **3.** Plotz, M.: Pentaerythritol tetranitrate: A new drug for the treatment of coronary insufficiency. N. Y. J. Med. **52**:2012, Aug. 15, 1952. **4.** Plotz, M.: The treatment of angina pectoris with a new prolonged action pentaerythritol tetranitrate. Amer. J. Med. Sci. **239**:194, Feb. 1960. **5.** Russek, H. I., Urback, K. F., Doerner, A. A. and Zohman, B. L.: Choice of a coronary vasodilator drug in clinical practice. JAMA **153**:207, Sept. 19, 1953. **6.** Russek, H. I., Zohman, B. L. and Dorset, V. J.: Objective evaluation of coronary vasodilator drugs. Amer. J. Med. Sci. **229**:46, Jan. 1955. **7.** Russek, H. I., Zohman, B. L., Drumm, A. E., Weingarten, W. and Dorset, V. J.: Long-acting coronary vasodilator drugs: Metamine, Paveril, Nitroglyn, and Peritrate. Circulation **12**:169, Aug. 1955. **8.** Russek, H. I.: Evaluation of drugs used in the treatment of angina pectoris by means of exercise-electrocardiographic tests. Ann. N. Y. Acad. Sci. **64**:533, Nov. 16, 1956. **9.** Talley, R. W., Beard, O. W., and Doherty, J. E.: Use of pentaerythritol tetranitrate (Peritrate) in treatment of angina pectoris. Amer. Heart J. **44**:866, Dec. 1952. **10.** Winsor, T. and Humphreys, P.: Influence of pentaerythritol tetranitrate (Peritrate) on acute and chronic coronary insufficiency. Angiol. **3**:1, Feb. 1952. **11.** Eskwith, I. S.: Holistic approach in the management of angina pectoris. Postgrad. Med. **27**:203, Feb. 1960. **12.** Friedlander, H. S.: The role of ataraxics in cardiology. J. Cardiol. **1**:395, Mar. 1958. **13.** Russek, H. I.: Meprobamate in the treatment of angina pectoris. Amer. J. Cardiol. **3**:547, Apr. 1959. **14.** Shapiro, S: Observations on the use of meprobamate in cardiovascular disorders. Angiol. **8**:504, Dec. 1957. **15.** Waldman, S. and Pelner, L.: Modification of the anxiety state associated with myocardial infarction by meprobamate: preliminary notes. N. Y. J. Med. **58**:1285, Apr. 15, 1958. **16.** Koehnke, F. K.: Treatment of angina pectoris of functional origin with Corneural. Med. Klin. **54**:1435, Aug. 1959.

Indications: 'Miltrate' is useful for prophylaxis of pain in angina pectoris and coronary insufficiency, especially where anxiety is a factor. **Contraindications:** Like all nitrates, pentaerythritol tetranitrate should be avoided or prescribed cautiously for patients with glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use. **Precautions:** *Meprobamate* — Patients engaged in activities requiring alertness should be warned of drowsiness. Meprobamate may increase the effects of excessive alcohol, and the possibility of dependence should be considered, particularly in patients with a history of drug or alcohol addiction. Sudden withdrawal may result in reactions, rarely epileptiform seizures. Grand mal attacks may be precipitated in persons susceptible to both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies. **Side effects:** *Pentaerythritol tetranitrate* — The most common side effects are transient headache, nausea, and rash. Weakness, palpitation, flushing, gastrointestinal distress, and lightheadedness have been reported on a few occasions. *Meprobamate* — May cause drowsiness and, rarely, ataxia, usually controlled by decreasing the dosage. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses of the drug. Mild reactions include urticarial or maculopapular rash. Serious reactions, rarely encountered, include dermatological effects, acute nonthrombocytopenic purpura, chills, fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises, anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic, and the drug not be reinstituted. **Dosage:** Usual dosage is one or two tablets before meals and at bedtime. Individualization of dosage is required for maximum therapeutic effect. Doses above twelve tablets daily are not recommended. **Supplied:** White tablets, each containing meprobamate 200 mg. and pentaerythritol tetranitrate 10 mg. ***Before prescribing, consult package circular.***

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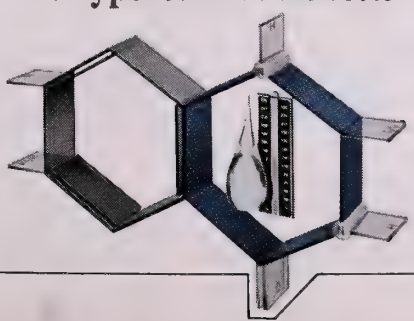
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CONTRAINDICATION: Anuria.

1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. J. Amer. Geriat. Soc. 11:945 (Oct.) 1963.

2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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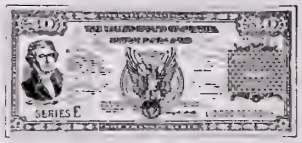
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*Clinical report on file, Medical Department, A.H. Robins Co., Inc.

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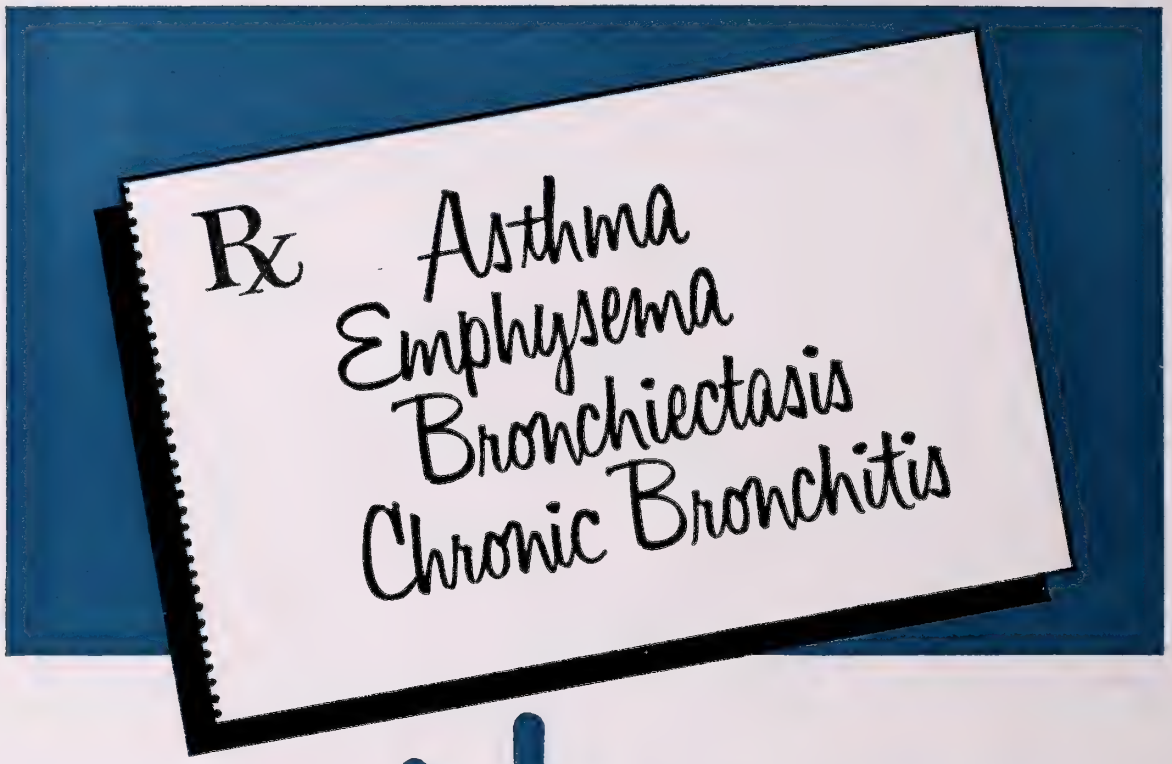
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SIDE EFFECTS: Dryness of mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.

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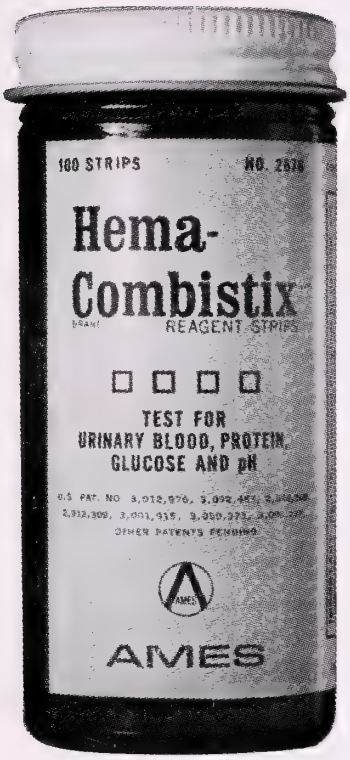
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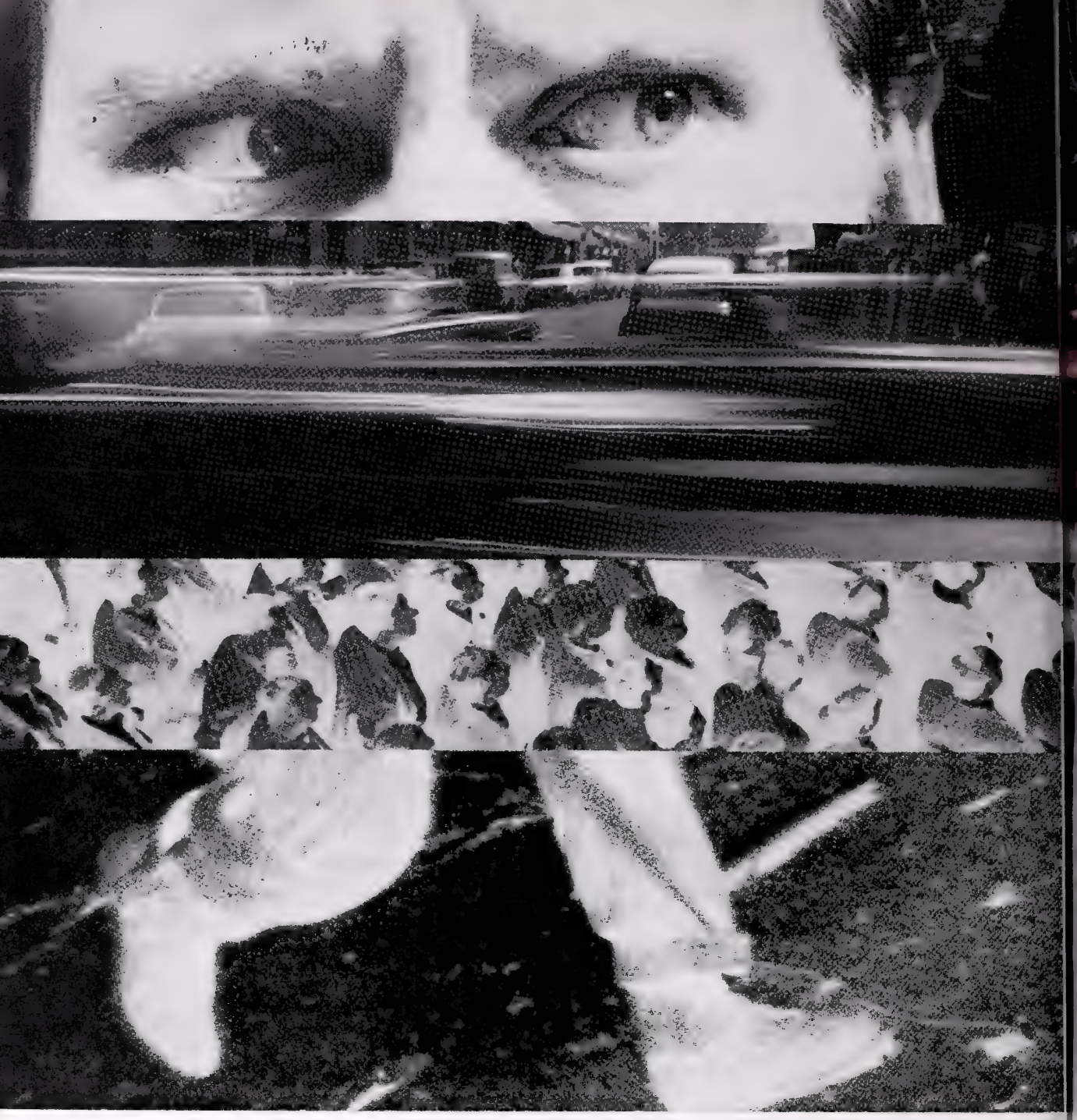
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Cautions—Occasional side effects, often dose-related, are drowsiness, ataxia, minor skin rashes, menstrual irregularities, nausea and constipation. Paradoxical reactions may occasionally occur in psychiatric patients. Individual maintenance dosages should be determined. Advise patients against possibly hazardous procedures until maintenance dosage is established. Though compatible with most drugs, use care in combining with other psychotropics, particularly MAO inhibitors or phenothiazines; warn patients of possible combined effects with alcohol. Observe usual precautions in impaired renal or hepatic function, and in long-term treatment.

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MEDICINE *and* PHARMACY

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DECEMBER • 1964

U.M. # 12

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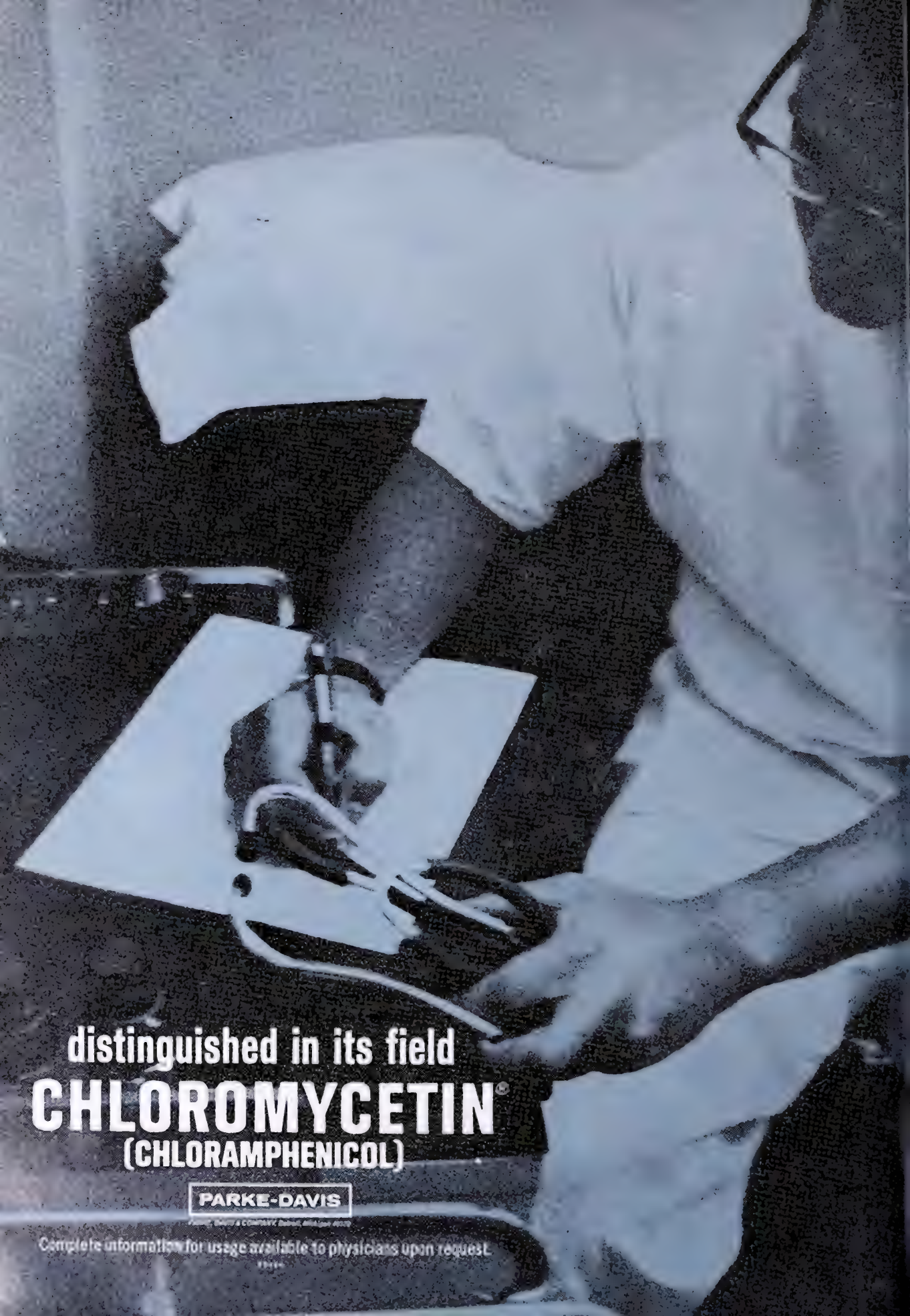
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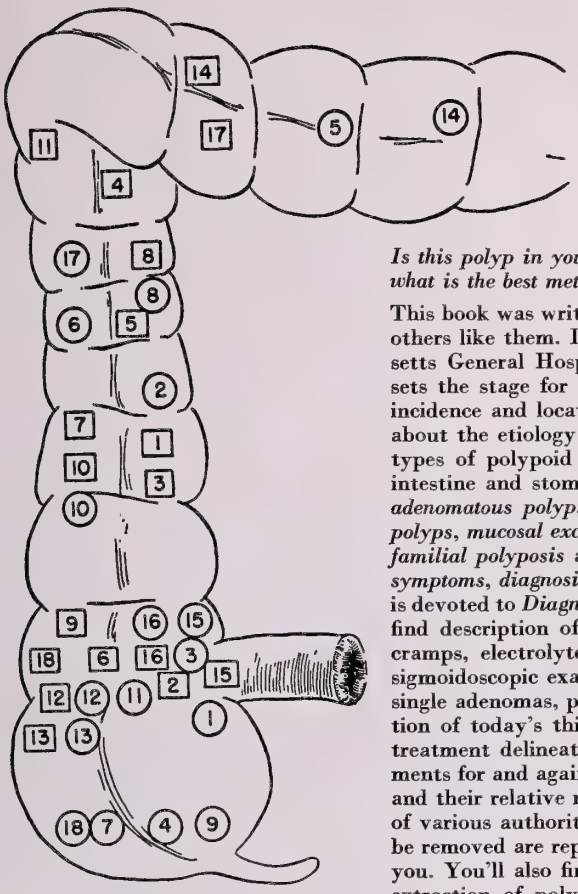


Figure 3-25. *Location of cancer and simple adenomas in resected cancers of the right colon. Squares locate cancers; circles, adenomas.*

Polypoid Lesions of the Gastrointestinal Tract

by Claude E. Welch, M.D.

Is this polyp in your patient benign or malignant? Should it be removed? If so, what is the best method for this particular lesion in this particular patient?

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Entered as second-class matter January 22, 1948 at the post office at Sioux Falls, South Dakota under the act of August 24, 1912

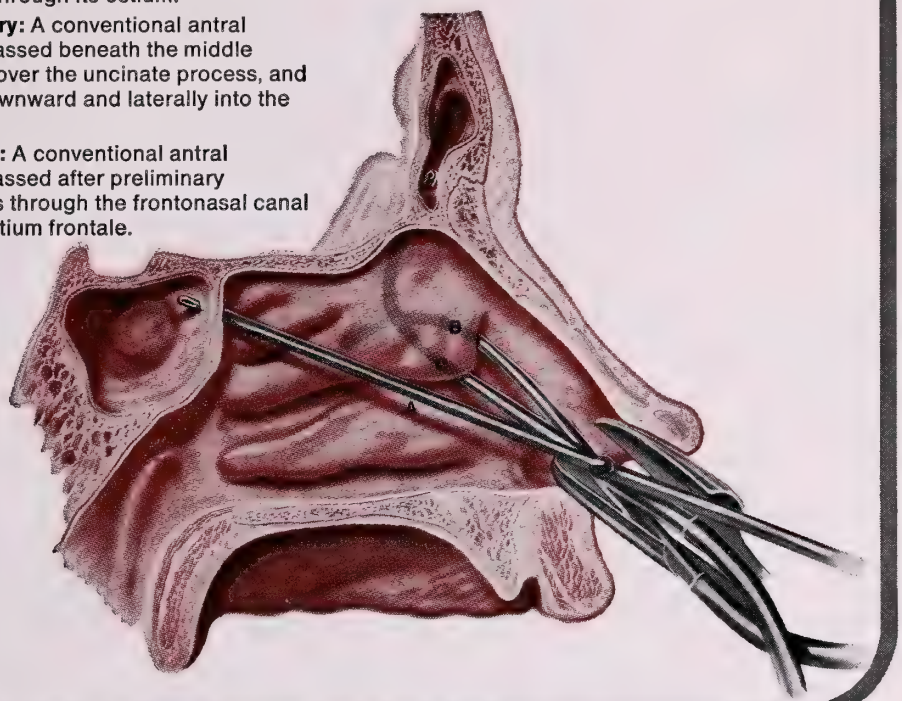
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*Reed, G. F.: Sinusitis, New England J. Med. 267:402, Aug. 23, 1962.

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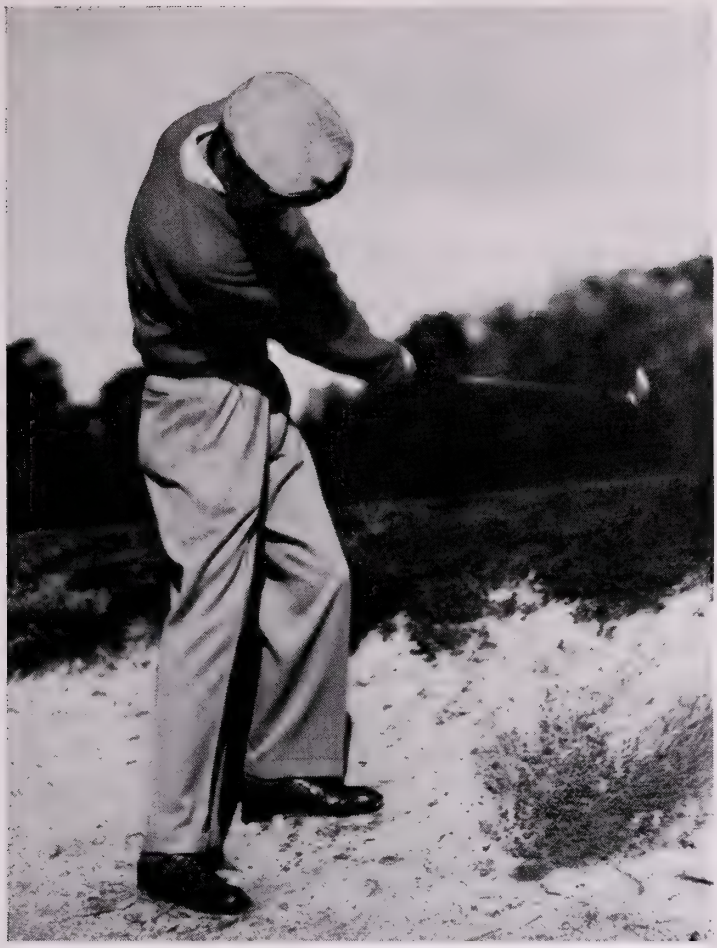
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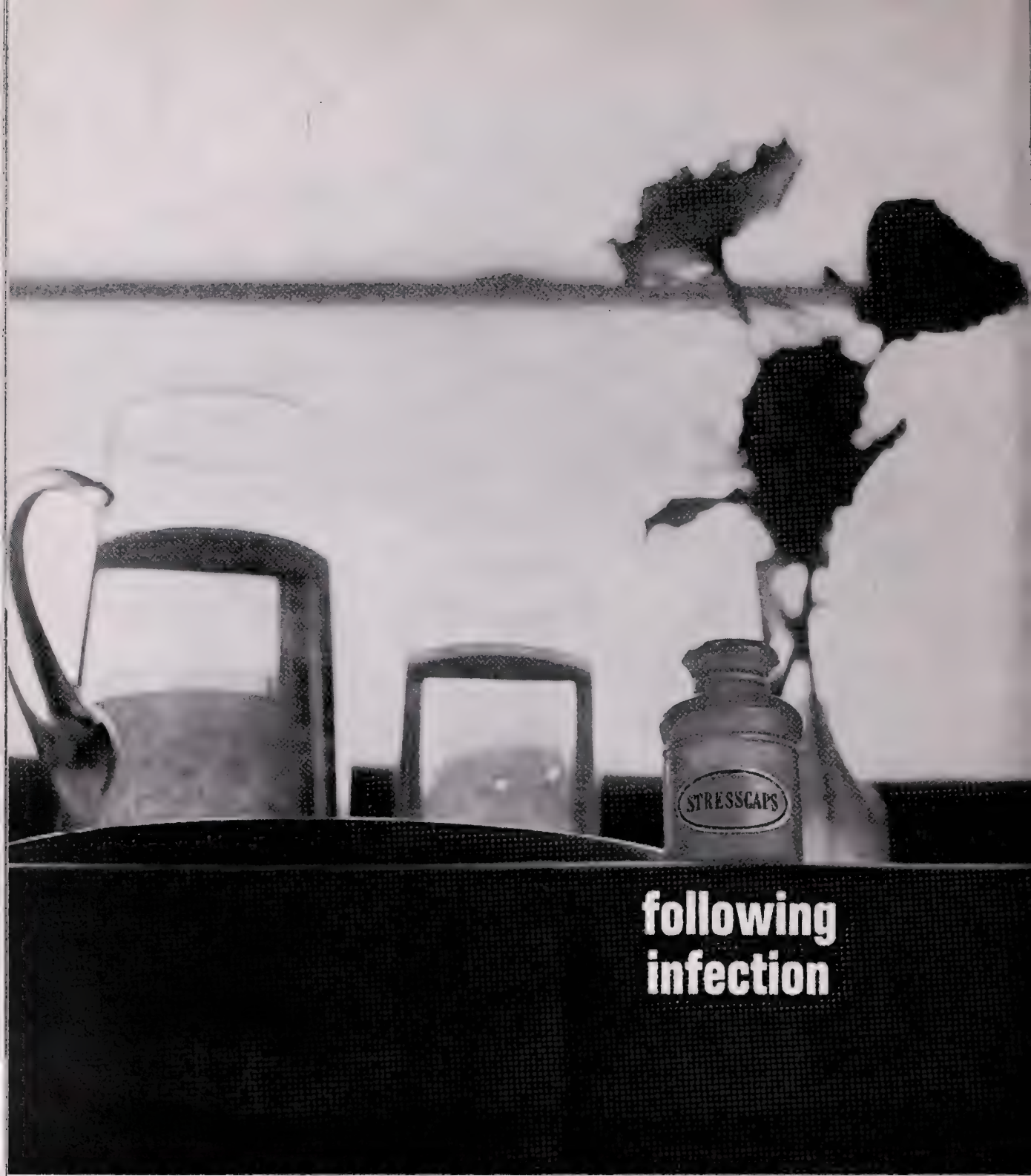
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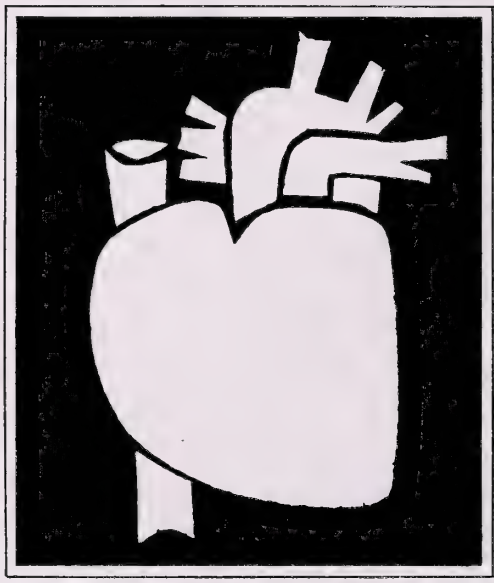
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1. Sweeney, W. M.; Dornbush, A. C., and Hardy, S. M.: Demethylchlortetracycline and Tetracycline Compared. Relative *in vitro* Activity and Comparative Serum Concentrations During 7 Days of Continuous Therapy. *Amer. J. Med. Sci.* 243:296 (Mar.) 1962.

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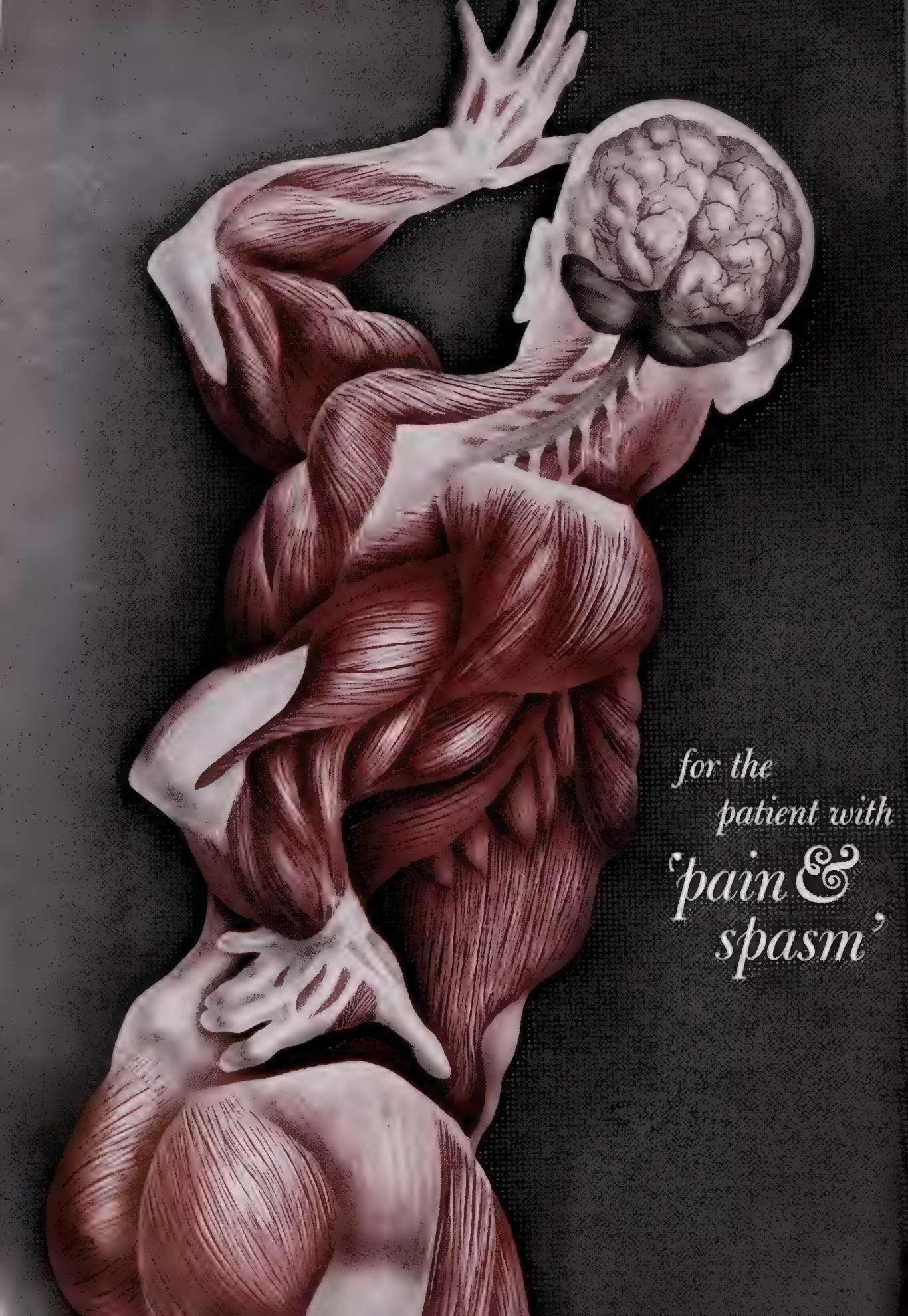
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Scientific PAPER

Immunization Survey in Pennington County

by

N. R. Whitney, M.D.*

and

Rachel L. Hennecke, CPS**

*Dr. Whitney has served as Pennington County Health Officer since 1957. From January, 1959, to the present he has assumed administrative responsibility for the local Health Department as well as acting in a medical advisory capacity.

**Mrs. Hennecke has been employed at the Pennington County Health Department since 1953. In 1959 she assumed the duties of head of the Division of Finance and Records.

Introduction

The Vaccination Assistance Act of 1962 is designed to increase the number of people immunized against certain diseases, particularly those children in the preschool ages. Diseases toward which this act was particularly aimed are diphtheria, whooping cough, tetanus, poliomyelitis, and smallpox. The Vaccination Assistance Act provides for financial assistance to state and local health departments for random sampling surveys to determine what proportion of the children are immunized in respective communities, and it also provides for purchasing of biologicals to be used in immunizing preschool children.

With financial assistance from this act, a survey of immunization levels was carried out in Rapid City and Pennington County, South Dakota, by personnel of the Pennington County Health Department with the assistance of the State Department of Health and the U. S. Public Health Service. The purpose of this paper is to report our findings.

Mrs. Hennecke attended the five-day U. S. Public Health Service training course, "Immunization Survey Methods for City and County Health Departments," held in Salt Lake City, Utah, September 16-20, 1963.

The survey of Rapid City was done in one day, on November 14, with a small number of telephone follow-up interviews the evening of that day and a small number of field visits the following morning.

The survey of Pennington County, excluding Rapid City, was carried out on two days, December 3 and 4.

Methods

The procedure learned in the course was effective in obtaining immunization records from a selected age group. Field work was reduced to about 50 percent of that which would have been

(1) $\frac{\text{Total population under 5 years}}{\text{Number of occupied households}}$ = Estimated average number of children under 5 years per housing unit

(2) $\frac{62.4}{\text{Children under 5/housing unit}}$ = Sample size

(3) $\frac{\text{Sample size}}{8}$ = Required number of Interview Sectors

(4) $\frac{\text{Required number of Interview Sectors}}{\text{Total number of blocks}}$ = Ratio of required number of Interview Sectors to total number of blocks

(5) $\frac{\text{Total number of housing units}}{\text{Total number of blocks}}$ = Average number of housing units per block

required if all families had been interviewed. Only families with preschool (under five years of age) children were interviewed, but the immunization of each family member was then recorded.

Classification of socio-economic areas was recommended for cities of 50,000 population and larger. Differentiation of the population into socio-economic strata on a geographic basis is of importance for two reasons, according to U. S. Public Health Service thinking: (1) the extent to which preschool children in families are immunized is correlated with the attitudes and resources of a family; and (2) immunization programs must be planned and carried out to meet the needs of families by geographic area rather than by selected families scattered throughout the city.

In Rapid City a socio-economic study was made, based on three known factors: percent of sound houses, median number of rooms per person (crowding index), and average value of housing units. Since the Indian population in Rapid City is concentrated in one general area, we felt that the socio-economic study had definite value in helping to locate low-income homes. The differentiation between the upper and middle areas, however, was not great.

The formulas used to determine number of interview sectors and number of housing units to be visited in each sector resulted in the minimum of 50 families with preschool children interviewed per area, which was the aim of the random survey method. Data obtained is considered reliable when these formulas are used.

Since the number of housing units needed per Interview Sector is 16, if the average number of housing units per block is less than 16, primary sample units consisting of two adjacent blocks must be selected. If the average number of housing units per block were 8 or less, primary sample units should be formed of three or more blocks.

After the formulas have been applied, the city is stratified into the required number of areas (Interview Sectors) consisting of the required number of blocks each, selecting one block at random from each group of blocks and then randomly selecting a second block from those adjacent to the first block selected. Housing units to be interviewed are then randomly selected from the designated blocks.

The pre-planning for the Rapid City and County surveys in Pennington County was done by two persons, Mrs. Hennecke of the local Health Department, and John Jones, Assistant to the Director of the Immunization project, State Department of Health. The planning was not done in a systematic, full-time period, as both these people were doing other assigned work while devoting part time to the Pennington County survey planning. A total time of two months was used for the planning and the actual surveying.

In brief, the pre-planning consisted of:

1. Obtaining of needed data, such as census information and information needed for the socio-economic stratification study.
2. Procuring maps.
3. Field checks of housing units before laying out of interview sectors.
4. Figuring of formulas to determine number of interview sectors, ratio of interview sectors to total number of blocks, and average number of housing units per block.
5. Assignment of blocks and of housing units within blocks (made by using random tables).

6. Final field check and revisions of Step 5 where needed.

7. Computing number of interview teams and personnel needed for the actual survey. Two persons per team were used in the Rapid City survey, one person per team in the County survey.

8. Planning with Nursing Supervisor for personnel for the interview teams.

9. Map work, including layout of interview sectors and housing units to be contacted. Each interview team, of course, needed a map of the areas assigned to that particular team. A control desk map showing all housing units to be interviewed in all interview sectors was also made.

10. Preparation of forms:
    a. Interview sheets
    b. Tabulation forms

11. Preparation of folders for interview teams.

12. Briefing of interview teams and distribution of materials to interview teams.

Findings

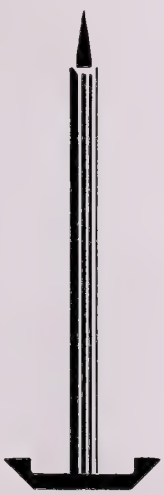
The accompanying tables show the numbers and percentages of the people immunized in each age category.

Discussion

In the event of nuclear warfare, a breakdown in current medical services and a simultaneous breakdown in certain hygienic measures such as water treatment prior to drinking can be expected. Furthermore, many people might be displaced enough that they could be exposed to many more diseases than they are now. With all these possibilities in mind, people would have to rely on prior immunization for defense against these diseases instead of upon international quarantine regulations, water treatment facilities, and hospital treatment, which are available now under peacetime conditions.

The question immediately arises as to optimum immunization levels. While the immunization of every individual is certainly desirable unless there are medical contraindications, there is a definite herd effect where protection of the population is reached with less than one hundred percent of the population immunized.

We have found few published statements of this ideal immunity. However, Cruickshank (1961) and J. de Moerloose (1961) both suggest 70 percent of the population should be immune for diphtheria, and Coriell (in litt.) suggests 65 percent for poliomyelitis. Presumably both of these are based on the findings of Hedrich (1933) that measles epidemics generally ended when



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the percentage of susceptible children in the population fell to 32 percent.

This figure of 65 percent would undoubtedly hold true for smallpox and whooping cough as well as for diphtheria and poliomyelitis, since all are primarily transmitted by person-to-person contact. This might also be true of typhoid fever, even though it is usually spread from person to person by contaminated water. Tetanus, on the other hand, since it is widely present in nature outside the human body, is a threat to any unimmunized person who sustains a puncture wound, and therefore a goal of 100 percent immunization against tetanus is necessary for protection.

Thus our statistics indicate that as far as diphtheria and poliomyelitis are concerned an adequate level of immunization is currently present in children, and our aim should be to maintain this level, and, if possible, increase it. The level of smallpox immunization should be raised to 70 percent or more, although this disease is currently not a threat in the United States. Typhoid immunization has not been urged in Pennington County.

As indicated in the tabulations, the interviewers were asked to indicate either by direct questioning or by their evaluation of the family why immunizations were not up-to-date, if they were not in the particular family. While certain conditions such as eczema are contraindications to smallpox vaccination, and while the presence of an acute infection is an immediate contraindication to any immunizations, the physician's advice was only the second most frequently given reason. Apathy seemed to be the main reason given both in Rapid City and in the country area outside of the city. This was to be expected since immunizations are not only widely available through physicians' offices but are routinely given in both the public and parochial schools of the city and county and are available through an immunization clinic at the Pennington County Health Department.

Conclusions

The results of a random sample immunization survey of Pennington County are presented. Reasons for maintaining high immunization levels are discussed and reasons why families have not taken advantage of immunizations available are also mentioned. Future action needed seems to be an educational campaign to make the public aware of the need for immunizations and the availability of immunizations against poliomyelitis, diphtheria, whooping cough, tetanus, smallpox, and typhoid.

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TABLE I.

REASONS FOR LOW IMMUNIZATIONS

November 14, 1963
December 3 & 4, 1963

	Advice of Physician	Belief	Cost	Apathy	Other
RAPID CITY					
Socioeconomic Area					
LOWER	4	1	2	11	1
MIDDLE	7	1	2	17	1
UPPER	12	1	0	16	0
PENNINGTON COUNTY (excluding Rapid City)	7	3	5	38	3
TOTALS	30	6	9	82	5

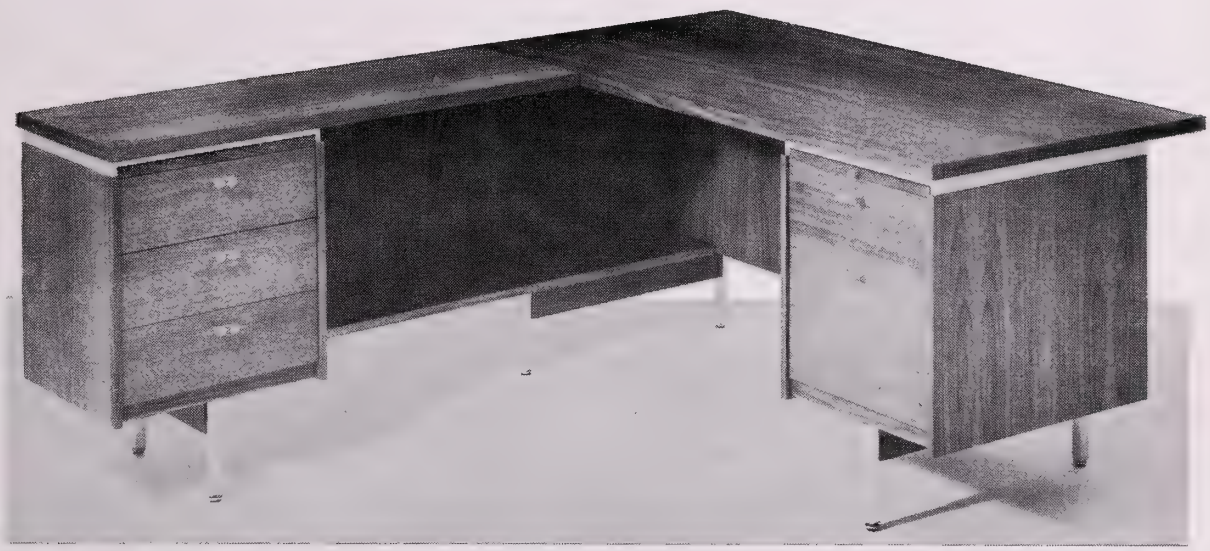
TABULATION
PENNINGTON COUNTY HEALTH DEPARTMENT
IMMUNIZATION SURVEY

November 14, 1963
December 3 & 4, 1963

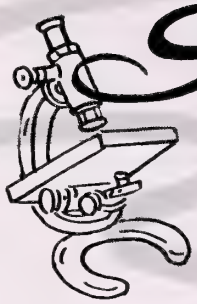
	Age Group	Number of Persons	Number Protected				Percent Protected			
			Polio	DPT.	Smpx.	Typh.	Polio	DPT.	Smpx.	Typh.
RAPID CITY	under 1	31*	22	21	9	1	71.0	67.7	29.0	3.2
	1- 4	169	138	134	103	10	81.1	79.2	61.0	5.9
	5-14	187	175	133	105	25	93.5	71.1	56.1	13.4
	15-39	253	190	—	41	79	75.1	—	16.2	31.2
	40 & over	36	20	—	1	3	55.5	—	2.8	8.3
PENNINGTON COUNTY (excl. Rapid City)	under 1	14*	7	6	4	1	50.0	42.9	28.6	7.1
	1- 4	90	65	68	56	5	72.2	75.6	62.5	5.6
	5-14	103	91	75	61	7	88.3	72.8	59.2	6.8
	15-39	107	69	—	21	7	64.5	—	19.6	6.5
	40 & over	18	11	—	3	1	61.1	—	16.6	5.5
PENNINGTON CO. TOTAL	under 1	45*	29	27	13	2	64.4	60.0	28.8	4.4
	1- 4	259	203	202	159	15	78.4	78.0	41.4	5.8
	5-14	290	266	208	166	32	91.7	71.7	57.2	11.0
	15-39	360	259	—	62	86	71.9	—	17.2	23.9
	40 & over	54	31	—	4	4	57.4	—	7.4	7.4

*Number of children under one year of age tabulated.

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Scientific PAPER

The Treatment of Acute and Chronic Osteomyelitis in the Antibiotic Era*

by

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Section of Orthopedic Surgery
Mayo Clinic and Mayo Foundation
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The argument whether acute hematogenous osteomyelitis is more prevalent or less prevalent since the advent of the antibiotic era has been raging for years. A corollary discussion, whether the antibiotics have reduced the incidence of chronic osteomyelitis, is also a popular subject for private and public debate. Still another aspect of the continuing interest in this subject is the question whether the antibiotics have significantly altered the surgical and medical treatment of the acute and chronic forms of this major infectious disease. I am not sure that I have the answers, but it will be interesting to study the problem in some detail. There is no doubt that the advent of the sulfonamides and later the broad-spectrum antibiotics has added a new dimension to the treatment program.

Acute osteomyelitis may be produced by an external wound communicating with bone, such as in a compound fracture, or by a hematogenous infection which localizes in a bone, usually in the metaphysis of a long bone but also on occasion in membranous bone. The bone infection is accompanied by a severe toxic reaction with high fever and prostration of the patient.

Chronic osteomyelitis is the result of acute osteomyelitis which has not completely resolved. It is characterized by sclerosis in the bone with recurring episodes of chills and fever followed by a purulent discharge, pain, and disability.

Effect of Antibiotics on Incidence

First we might consider the impact of the antibiotics on the incidence of acute osteo-

* Read at the meeting of the South Dakota State Medical Association, Sioux Falls, South Dakota, May 30 to June 2, 1964.

myelitis. It is difficult to assess their value in the treatment of compound fractures. Certainly the incidence of infection in compound wounds has decreased in the past 20 years, but in this period the principles of thorough debridement of devitalized tissues, irrigation with large amounts of fluid, and open treatment of wounds with the use of delayed closure have been emphasized by the lessons of war and followed more or less religiously by surgeons. Antibiotic treatment in this type of wound has also become routine in this same period, so that it is difficult to know which factor has been more important.

The clinical evidence of the impact of antibiotics on acute hematogenous osteomyelitis is not clouded by as many variables, and therefore some evidence seems to be valid. Tronzo and Dowling[1] showed that since the beginning of the antibiotic era the incidence of acute osteomyelitis in children has decreased significantly at Philadelphia General Hospital but that there has been a tendency recently to a rebound toward a somewhat higher rate. Presumably the decrease was due to the prompt treatment of acute infections by broad-spectrum antibiotics and the rebound is the result of the increasing incidence of bacterial resistance to antibiotics, chiefly penicillin, as seen in most urban areas. Their figures show an incidence of osteomyelitis of 0.382 per cent in hospital admissions in the period of 1940 through 1946, 0.229 per cent in 1947 through 1953, and 0.231 per cent from 1954 through 1959. Positive blood cultures were obtained in 30 to 50 per cent of these cases; the causative organism was Staphylococcus aureus in 97 per cent of the positive results. This incidence of staphylococcic infections is in marked contrast to the higher incidence of streptococcal infections before the introduction of penicillin.

Gilmour,[2] reporting from Britain, presents much more striking evidence of the increased incidence of osteomyelitis following the initial improvement of the situation with the use of antibiotics. In the period of 1944 through 1951 he saw only 77 cases of acute hematogenous osteomyelitis. This was in the first 7 years of the penicillin era. Since then, 1951 through 1960, he saw 251 cases. It is his opinion that this increase was entirely due to the increased incidence of resistance of the organisms to penicillin.

There seems little doubt that to prevent the tragic consequences and crippling deformities of osteomyelitis, the physician of any community must know the antibiotic sensitivity pattern of the Staph. aureus that is present in his community. He must keep in mind his practices and those of the other physicians of the area in regard to the use of antibiotics prophylactically and therapeutically. If everyone in the community is using penicillin to treat routine and minor infections, and one or more surgeons give their patients penicillin before and after every operation, it would seem folly to use penicillin as the primary antibiotic in the treatment of a child whom he suspects of having acute osteomyelitis or septic arthritis. With the wide range of broad-spectrum antibiotics available today, it seems logical to reserve a few for the treatment of serious and overwhelming infections. Thus far, we have been able to keep ahead of the ability of the microorganism to develop resistance to antibiotics, and we have done this by producing new and effective antibiotics fast enough. Let us not press our luck. The use of potent antibiotics for the common cold or minor pharyngitis is not wise.

Choice of Antibiotic

What antibiotics should be used in the case of a child or an adult who is toxic and in whom acute osteomyelitis is suspected? In 1960 and 1961 it seemed that tetracycline and oxytetracycline were the answer. As a higher percentage of staphylococci became resistant to these drugs, erythromycin became the drug of choice and then oleandomycin and chloramphenicol; lately it has been the semisynthetic penicillins. Vancomycin, because it is given only intravenously, has remained the drug used only in desperate septicemias, and for that reason it has remained the drug to which almost no resistance has developed by Staph. aureus. Thus far, the semisynthetic penicillins have remained highly effective, even against those organisms producing penicillinase. The only drawback in their use is the distinct possibility of producing allergic reactions in patients allergic to penicillin G. Chloramphenicol is also highly effective against Staph. aureus, but there have been some recorded cases of aplastic anemia following its use.

The most difficult aspect of the problem is to determine when acute hematogenous osteomyelitis is present and whether to attack it surgically. As will be seen in the case reports, the child may be extremely toxic and have minimal localizing signs in the bone, or he may be only mildly ill with alarming localized signs of infection. Ormonde[3] pointed out the difficulties

of diagnosis and presented four cases in which the diagnosis was obscure or the symptoms were misleading. In one of these cases, which involved osteomyelitis of the femur, the symptoms prompted an abdominal exploration; in another, both femurs were involved; in the third, osteogenic sarcoma was diagnosed; and in the fourth case, a clavicle was involved and diagnosis was not made even with open biopsy. He also stressed the importance of adequate dosage of antibiotics in cases of suspected acute osteomyelitis. In the same vein, Harris[4] emphasized that the ability to make an early diagnosis depended on maintaining a high degree of suspicion, and he showed the importance of this alertness in aborting a full-blown case of osteomyelitis and in preventing recurrences. At the time he was writing (1960), the tetracyclines seemed the drugs of choice in the treatment of patients suspected of having acute osteomyelitis. Winters and Cahen[5] expressed the opinion that there has been an increasing incidence of acute osteomyelitis in the past 7 years and that chronic osteomyelitis develops in about 25 per cent of the cases.

Approach to Treatment

Most authorities agree that the primary treatment for suspected acute osteomyelitis is adequate doses of an antibiotic known to be effective against all strains of Staph. aureus present in the locality. If in spite of this, severe toxicity and increasing local signs of elevated temperature, tenderness, muscle spasm, and x-ray changes indicate that the antibiotic is not effective in the 48 hours after institution of treatment, surgical decompression of the bone should be undertaken. This procedure may consist of putting multiple drill holes through the cortex of the suspected bone until pus is obtained, or it may be done by draining a subperiosteal abscess or unroofing a fairly large area of medullary bone to give adequate drainage. In any of these procedures the pus obtained should be cultured and the antibiotic sensitivity pattern ascertained. The wound should be packed open. If the appropriate antibiotic is used in adequate dosage, it will frequently be possible to close the wound secondarily in 5 to 9 days after the original surgical decompression with the confidence that the disease has been completely arrested.

On the other hand, failure to recognize the disease early or to perform adequate surgical decompression of the bone may result in chronic osteomyelitis. The original bony abscess becomes walled off with inflammatory tissue, and sclerotic bone shuts off the blood supply from adjacent bone and soft tissue. This allows the organisms to grow unchecked by blood-borne antibiotics and natural body defenses. If no surgical treatment intervenes, this leads to recurring episodes of fever, local abscess formation, sequestration of bone, and discharge of pus to the outside.

REPORT OF CASES

Case 1.—The present illness of a 6-year-old boy admitted on October 6, 1958, had begun 2 weeks before, when he had complained of headaches on the first day of school, and, during the school day, had fallen on his right shoulder. He had complained later of pain in the right shoulder. The following day an elevated temperature had been noted, and this had risen to 105.4° F. by the next day. An x-ray film of the shoulder made 5 days after the fall had been negative; on the same day he had been given penicillin by mouth. He had remained in the hospital for 10 days, and roentgenograms made 2 weeks after the injury had revealed periosteal reaction about the right humerus. He had been dismissed to his home and instructed to continue taking oral penicillin. The child had remained in relatively good general health with a low-grade fever and with pain and swelling in the right arm.



Fig. 1 (case 1). Right humerus showing destruction of shaft of humerus with pathologic fracture and involucrum.

At the Mayo Clinic, the results of a general physical examination were negative except for the right upper extremity. Abduction of the shoulder was limited to a few degrees. There was diffuse swelling of the entire right arm from the shoulder to the elbow, and

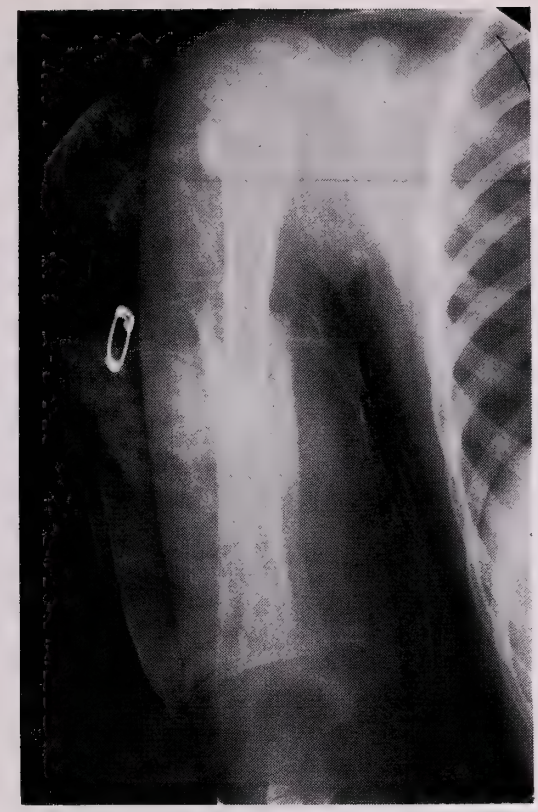


Fig. 2 (case 1). Postoperative saucerization of right humerus.

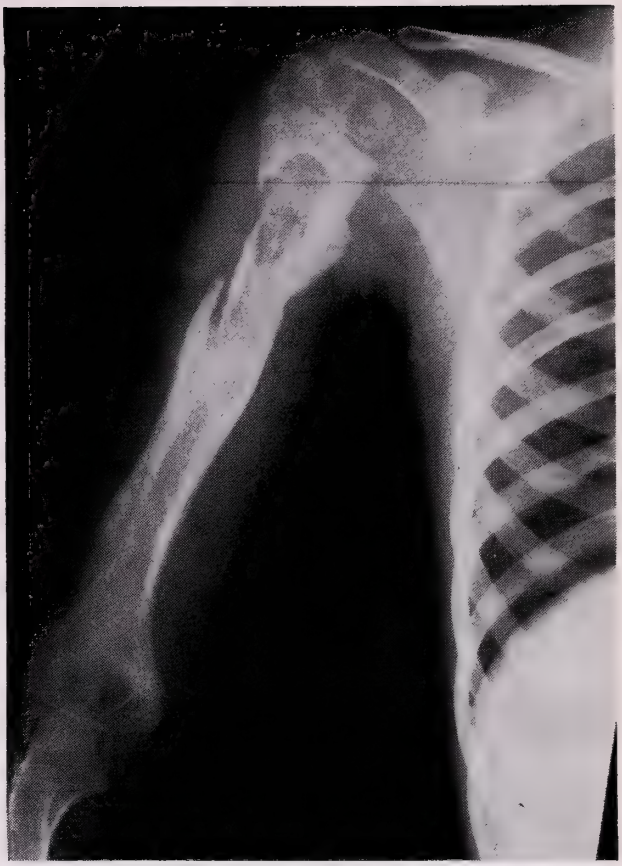


Fig. 3 (case 1). Healing of the pathologic fracture and reconstruction of the shaft of the humerus 2 months postoperatively.

firm subcutaneous masses were present in the lateral aspect of the mid-shaft of the arm. The skin was warm and darkly erythematous. The circumference of the right arm was 1¾ inches greater than that of the left. Roentgenograms taken at that time revealed extensive destruction of the entire shaft of the right humerus with involucrum in the distal two thirds of the bone and a pathologic fracture at the junction of the proximal and middle thirds of the humerus (fig. 1). On October 18, 1958, an incision and drainage was performed in the region of the deltoid insertion. Pus and granulation tissue were found in the upper half of the shaft of the humerus. The involucrum completely surrounded the largely destroyed shaft of the humerus. There was a pathologic fracture. The humerus was decompressed, and a Penrose drain was left in place. Culture of the material removed at operation revealed Staph. aureus which was sensitive to all antibiotics tested. He was treated with aqueous crystalline penicillin, 4 million units a day in divided doses, intramuscularly. The drain was removed on October 30, 1958. At that time, roentgenograms showed that the pathologic fracture of the humerus was beginning to heal (fig. 2). He was dismissed from the hospital and treated as an outpatient. By November 7, the fracture was found to have healed, and drainage had completely subsided. There was still a small amount of granulation tissue at the wound site. Use of penicillin intramuscularly was continued until November 21, 1958. He was allowed to return home.

He returned to the Mayo Clinic on December 29, 1958. At that time there was no evidence of active infection; the fracture had healed with mild angulation deformity at the fracture site (fig. 3). He was last seen June 1, 1959, at which time the wound remained healed and the patient had no symptoms.

Case 2.—A 3-year-old boy was admitted to the hospital on November 27, 1963, with a history of upper respiratory infection and fever for 5 days and pain in the right leg with limp for 3 days before admission. He had had a poor appetite and had lost six pounds during this period. The night pain had kept him awake in the past 3 days. He had been given 600,000 units of penicillin by his local physician on November 26, the day before admission.

The examination on admission revealed an irritable child who limped on the right leg while walking. Examination of the right lower extremity revealed diffuse tenderness in the right thigh but normal motions of the hip and knee and no localized tenderness. X-ray study did not reveal signs of infection (fig. 4). The concentration of hemoglobin was 10.9 grams per 100 ml. of blood and the leukocyte count was 7700 per cubic millimeter of blood, with 23 lymphocytes, 8 monocytes, 68 neutrophils, and 1 basophil. The right lower extremity was placed in Buck's extension. The temperature rose to 103.8° F., remained elevated for 2 days, and then began to subside. He was treated with penicillin, 1,200,000 units intramuscularly, and streptomycin, 300 mg. On November 30, use of penicillin intravenously, 8,000,000 units per day, was begun. On December 1, 1 gram of methicillin was given intravenously every 6 hours and administration was continued until December 14, 1963. Oxacillin was started by mouth at that time and its use continued until December 21, 1963, in dosage of 1 gram per day. During this time the patient became extremely ill and had evidence of renal and cardiac toxicity with electrocardiographic changes and other evidence of staphylococcal endocarditis. Staph. aureus sensitive to erythromycin, kanamycin, and vancomycin was cultured on several occasions from the blood. At the same time three separate roentgenograms of the upper end of the femur were taken and all were negative. The patient continued to have tenderness in the upper part of the thigh, but the tenderness was not localized, and it was possible to move the right lower extremity in all directions with-

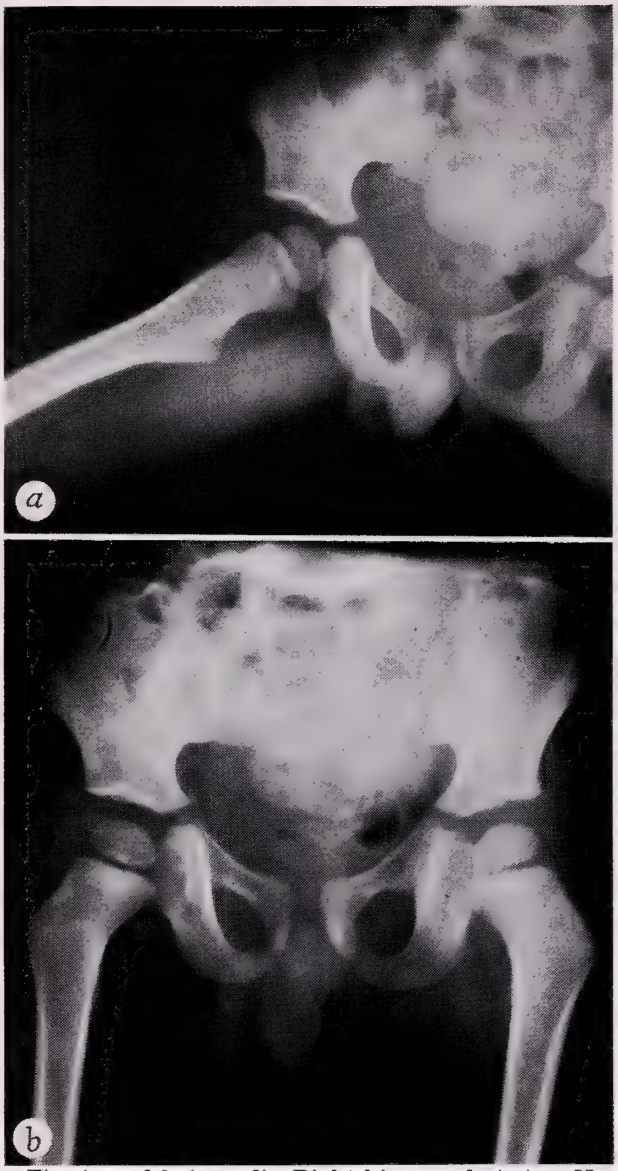


Fig. 4**a** and **b** (case 2). Right hip on admission, November 27, reveals no evidence of septic arthritis or osteomyelitis.

out causing pain. By December 8, he was symptomatically much improved. Because of the localization of the symptoms, we felt that he had had osteomyelitis of the upper shaft of the femur which had responded to the antibiotic therapy. It was not possible to detect any changes in the bone by roentgenogram until December 17, 1963 (fig. 5); this was 3 weeks after the onset of symptoms. At that time the changes consisted of minimal periosteal reaction along the lateral aspect of the upper part of the femur and slight irregularity of the trabecular pattern in the proximal shaft of the femur. The x-ray findings have not changed appreciably since that time (fig. 6 and 7). The patient has made a complete recovery as far as his general condition is concerned. Peroneal palsy with a foot drop developed on the left. This was the extremity in which a vein had been catheterized for intravenous instillation of fluids and antibiotics. This peroneal palsy resolved spontaneously.

CHRONIC OSTEOMYELITIS

It is certain that antibiotics alone have no dramatic effect on this condition. They may prevent bacteremia and septicemia and in this

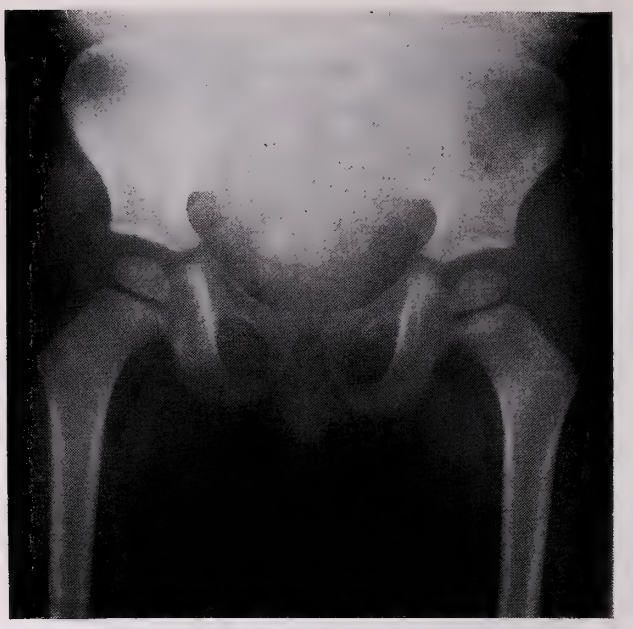


Fig. 5 (case 2). Condition of pelvis on December 17 reveals some irregularity of trabeculae in upper region of right femur.

regard may be beneficial, but they do not prevent recurring flare-ups of infections in bone and soft tissue and do not cure the osteomyelitis. This is true regardless of the sensitivity of the organisms responsible for the infection, because the antibiotics cannot get through the barrier of scar tissue and sclerotic bone to attack the bacteria.

Surgical treatment is the prime factor in the successful management of chronic osteomyelitis. Although many different surgical approaches to the problem have been proposed, and used successfully, the principles have remained the same, namely eradication of all infected soft tissue and bone followed by local and systemic treatment designed to prevent reinfection of the bone. In the classical Orr treatment the excision of infected soft tissue, bony abscess, sequestra, and sclerotic bone was followed by packing the wound open widely and applying a cast which was left in place for weeks and even months. Orr felt that the immobilization prevented lymphatic spread of the infection, but now it appears that the primary benefit was the open packing, which kept the infection on the surface of granulation tissue and prevented pocketing and abscess formation.

At present most of the changes in the technic have involved the use of antibiotics. Early in the antibiotic era, attempts were made to combat the infection before, during, and after the surgical procedure (which was the same as in the Orr treatment) by giving the appropriate



Fig. 6 (case 2). Pelvis on January 3. Changes in trabecular pattern of bone have intensified slightly.

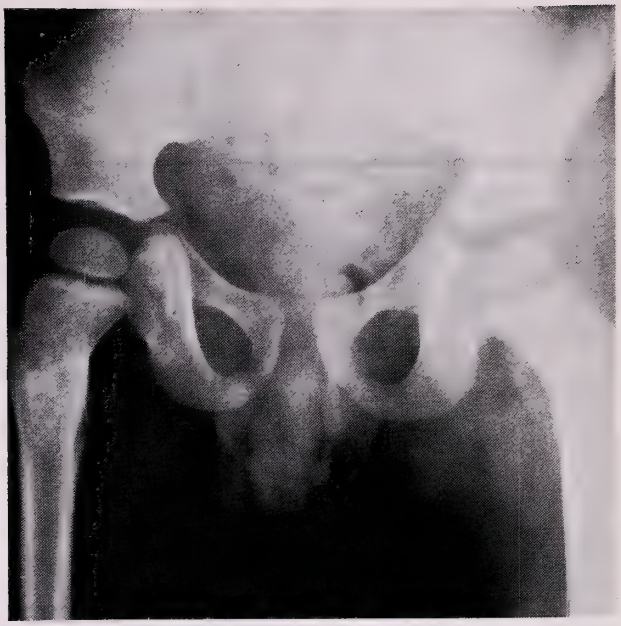


Fig. 7 (case 2). View of pelvis on March 13 shows essentially unchanged picture of trabecular pattern disarrangement in the past 2 months.

antibiotic systemically. This required accurate culturing of the infection preoperatively. It is often difficult to get a pure culture of the organism in chronic infection. Later the wound was irrigated or sprinkled with antibiotics locally at the time of surgical saucerization, and antibiotics were given systemically at the same time. Using this technic and at the same time filling the surgical defect with muscle or skin, Rowling[6] reported 48 successful results in 58 consecutive patients with chronic osteomyelitis. Another variation of this technic is to pack the wound open for several days and then do a secondary closure. Still another variation of this technic was reported by Compere,[7] in 1962, in a preliminary report of two cases. He used the method of Grace and Mitra, in which, after excision of the infected tissues, the wound is closed and irrigated with a combination of an aerosol wash detergent or Alevaire in normal saline and chloramphenicol or novobiocin.

Summary and Conclusions

The incidence of acute hematogenous osteomyelitis decreased with the advent of the antibiotic era, but as the pathogens have developed resistance to the antibiotics in routine use the incidence has increased again.

Adequate dosage of an antibiotic to which the Staphylococcus aureus organisms are sensitive should be used in cases of suspected early acute hematogenous osteomyelitis.

Surgical decompression of the bone involved with acute osteomyelitis should be accomplished if the patient does not respond dramatically to antibiotic therapy within 48 hours.

Chronic osteomyelitis is best treated with a combination of good surgical debridement and the use of antibiotics systemically and locally. It is frequently possible to close the resultant

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P. D. PEABODY, M.D.

1905—1964

Percy D. Peabody, M.D., age 59, a prominent northeastern South Dakota physician, passed away October 13, 1964.

Born in Webster, South Dakota, on August 13, 1905, Dr. Peabody received his medical degree from Rush Medical School in Chicago. After completing his internship at Ancker Hospital in St. Paul, he entered postgraduate work at the Mayo Clinic in Rochester, Minnesota.

Dr. Peabody practiced in South Dakota for approximately 28 years, being originally associated with his father, the late Dr. P. D. Peabody, Sr., at his clinic in Webster.

He is survived by his wife, Sarah of Sisseton; a daughter and a son.

wound secondarily, thereby avoiding gross deformity and heavy scarring.

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MINUTES OF THE COUNCIL MEETING

September 27, 1964

Holiday Inn Pierre, South Dakota

The meeting was called to order by Harold E. Lowe, M.D., Chairman of the Council, at 12:45 P.M. Present for roll call were Drs. J. P. Steele, Paul Hohm, P. P. Brogdon, A. P. Reding, R. R. Giebink, Robert H. Hayes, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, F. D. Leigh, Jack T. Berry, E. T. Lietzke, J. T. Elston, E. P. Sweet and H. E. Lowe. Also attending the Council Meeting were Commission Chairmen Drs. R. H. Quinn, M. R. Cosand, George Knabe, J. B. Gregg, C. L. Vogele, and D. L. Scheller.

Dr. Perry moved that the reading of the minutes of the last meeting be dispensed with inasmuch as they have been published in the SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY. The motion was seconded by Dr. Hohm and carried.

Mr. Erickson discussed the status of the Association building tax exemption and announced that it was scheduled to be heard in Circuit Court on October 15th.

The Council discussed the Katherine Kuehn Memorial Fund and considered the opinion given by the Association attorney on this matter. Dr. Hohm moved that the Association should turn the money back to the bank and that the Executive Committee of the State Association would act as an Advisory Committee to the bank in administering this fund, rather than setting up a separate corporation to handle funds of this type. The motion was seconded by Dr. Hayes and carried.

The letter concerning a Legislative Research Council study on the matter of setting up a separate Industrial Commissioner's department was discussed. Dr. Giebink moved that the executive secretary be instructed to initiate a bill requesting that such a study be made at the next session of the Legislature by the Legislative Research Council. The motion was seconded by Dr. Hayes and carried.

Mr. Erickson displayed the Fifty Year certificate which has been made up and will be given along with the 50 year pin to all physicians who have earned this award.

Dr. Steele discussed the Indian TB problem. Dr. Hayes moved that the matter be referred to the proper Commission with a request that an opinion be obtained from the Attorney General concerning the law on care of Indian TB patients in Public Health hospitals in South Dakota. The motion was seconded by Dr. Stransky and carried.

Dr. Steele discussed the Hill-Burton Advisory Committee set up in South Dakota. He requested that the Commission on Medical Service establish a liaison with Dr. D. L. Kegaries of Rapid City, a member of the Hill-Burton Advisory Committee, and request that he report to the Council of the State Medical Association on the activities of the Committee and any problems they may have in this field.

Dr. Steele announced that a meeting on Cardiovascular Disease will be held in Washington, D. C. on November 22-24. The matter was referred to the Commission on Scientific Medicine for study to determine if a representative should be sent to the meeting.

Dr. Berry moved that Dr. C. V. Auld of Plankinton, South Dakota be made an honorary member of the South Dakota State Medical Association. The motion was seconded by Dr. Brogdon and carried.

The Council discussed the registration fee at annual meetings. Dr. Steele moved that all out-of-state physicians attending our annual meeting be registered without charge. The motion was seconded by Dr. Giebink and carried.

Mr. Erickson discussed the plans which have been made for Community Health Week to be held during the week of October 18, 1964.

The report of the Rural Health Committee, which was referred to the Council by the Reference Committee at the Annual Meeting, was discussed. Dr. Hayes moved that the report be referred to the Committee on Medical Service with a request that specific information be submitted to the Council to implement the recommendations. The motion was seconded by Dr. Sweet and carried.

The Council considered the report of the Rehabilitation Committee.

Rehabilitation Committee Meeting

Sheraton-Cataract Hotel June 1, 1964

The Committee met with representatives of the State's Department of Vocational Rehabilitation, to discuss problems of mutual concern to the State Medical Association and the Department of Rehabilitation.

Mr. Hins explained the department's functions and requirements for aid. He explained that there is a $1500 maximum for any one case inasmuch as the funds are limited for the year's operation. The Committee made the following recommendations to the Council of the State Medical Association.

1. That the basic responsibility for indigent cases involving extensive medical care rests with the county, but that the Department of Vocational Rehabilitation could assist those in which there is a reasonable chance for rehabilitation.

2. That in recognizing the scope of the extensive services of the division of Vocational Rehabilitation, and the many types of cases that they assist; in which the vast majority of those are able to return to employment and tax paying status, it is the feeling of the Committee that the Council should urge the legislature in the direction of a larger annual appropriation for this department.

3. That it should be recognized that the dollar limits of the present Workmen's Compensation are inadequate for the major medical type of expenses that can be sustained in Workmen's Compensation cases. The Committee urges the Council to exert all possible influence on the state legislature to either abolish the present limitations, or establish a much higher maximum. The Committee suggests that the legislature investigate the difference in premiums for South Dakota and the surrounding states with higher limits. The Committee is of the opinion that the increased premiums would be insignificant. It should further be noted that many insurance policies have clauses whereby they do not apply if the injury is under Workmen's Compensation. The Committee adjourned the meeting at 4:45 P.M.

Dr. Hohm moved that the executive secretary be instructed to look into this matter and confer with Mr. Ben Hins to obtain further information on the new consultant plan. The motion was seconded by Dr. Sweet and carried.

Mr. Erickson discussed the request of the Automated Accounting Company for endorsement by the State Medical Association. Dr. Brogdon moved that no action be taken on the request for endorsement. The motion was seconded by Dr. Hayes and carried.

Mr. Erickson discussed the request of the Professional Credit Control for endorsement by the South Dakota State Medical Association. Dr. Stransky moved that we do not give endorsement to this company and that we look into the feasibility of setting up a separate organization within the State Medical Association to provide a collection service for physicians. The motion was seconded by Dr. Hohm and carried.

The Council then discussed the financial affairs of the SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY. The executive secretary was instructed to bring to the Council, at the next meeting, detailed facts and figures on the financial condition of the Journal.

Mr. Erickson proposed a change in the scheduling of the annual meeting program on the first day of business sessions.

Suggested Schedule For 1965
Annual Meeting

Saturday, May 15
9:00 A.M.—Budget and Audit Committee
10:00 A.M.—Council Meeting
1:30 P.M.—First House of Delegates meeting
3:00 P.M.—Blue Shield Corporate Body meeting
3:30 P.M.-5:30 P.M.—Reference Committee meetings
7:00-9:00 P.M.—Reference Committee meetings, if necessary

7:00 P.M.—Specialty group meetings

Dr. Sweet moved that the proposed schedule be accepted and incorporated in next year's program. The motion was seconded by Dr. Hayes and carried.

Consideration was given to a survey requested by a physician in the State. Dr. Brogdon moved that the Medical Association not conduct the survey through the Association office. The motion was seconded by Dr. Elston and carried.

A recommendation from the Blue Shield Board of Directors was discussed.

Recommendation to the Council of the South Dakota State Medical Association from the Blue Shield Board of Directors

Dr. Brown moved that this Board recommend to the Council of the South Dakota State Medical Association that the Commission on Medical Service be requested to explore and develop a program by committee delegation or otherwise which would then (1) Review controversial problems in insurance claims, (2) Review controversial fees in insurance claims, (3) Encourage component district societies to establish local district insurance review committees, (4) Promote the establishment of Utilization Committees at hospital staff level. Mr. Beckwith seconded the motion and it carried.

Dr. Hohm moved that the recommendation be accepted and referred to the Commission on Medical Service to be explored and that a report be returned to the Council on ways to implement the proposals. The motion was seconded by Dr. Berry and carried.

It was determined that the next Council meeting will be held on January 10, 1965. Dr. Tank moved that various matters that come up during the interim be referred directly to the Commission chairmen for study prior to the Council meeting; that copies of the correspondence be furnished the Chairman of the Council and the president of the Association. The motion was seconded by Dr. Reding and carried.

Dr. Steele discussed a request from the State Woman's Auxiliary that Auxiliary dues be billed along with the State Association dues. Dr. Elston moved that the executive secretary be instructed to write a letter to each District Secretary informing of this request and that each district may determine its own position on the matter; that the Districts should be encouraged to provide this service. The motion was seconded by Dr. Reding and carried.

Dr. Steele discussed a meeting to be held in Denver on January 10-15, 1965, on the subject of syphilis, sponsored by the U. S. Public Health Service. The matter was referred to the Commission on Scientific Medicine so a representative from South Dakota may be designated.

Dr. Jack Gregg reported on the activities of the Commission on Medical Service.

John B. Gregg, M.D.
318-D West Eighteenth Street
Sioux Falls, South Dakota
August 31, 1964

Dr. James P. Steele, President
South Dakota State Medical Association
Post Office Box 650
Yankton, South Dakota

Dear Dr. Steele:

Hereinafter, you will find a report of the activities of the Commission on Medical Service of the South Dakota State Medical Association, for use by the Council at its meeting in Pierre soon. I hope this information proves helpful and will be happy to supply any further information needed.

There has been no formal meeting of the Commission on Medical Service because there have been no problems which could not be handled by telephone and correspondence. The following sub-committees have been appointed:

Board of Directors for the Endowment Fund of the South Dakota State Medical Association: Drs. T. H. Willcockson, Chairman, R. C. Jahraus, G. E. Tracy, F. R. Williams, W. Jones, and J. B. Gregg - ex-officio.

School Health Committee: Drs. G. E. Tracy, Chairman, L. H. Amundson, J. A. Anderson, J. B. Gregg - ex-officio.

Traffic Safety: Drs. J. Stransky, Chairman, R. C. Jahraus, R. Stiehl, J. B. Gregg - ex-officio.

The Board of Directors of the Medical Endowment Fund have been asked to review one loan application by Richard D. Tenny, submitted by Dean Hard. There has been no other business for this committee.

The School Health Committee is considering the proposal concerning the inoculation program and the school health examination program requested by the House of Delegates at the last State Medical meeting. As of this date, no definite thoughts have been formulated.

Dr. Stransky, chairman of the Traffic Safety Committee, represented the South Dakota State Medical Association at a meeting of the Governor's Traffic Safety Advisory and Support Group in Pierre on July 30, 1964. A copy of his report has already been made available to you. There will be a meeting of this committee in Pierre at noon on September 26 to go over the proposed traffic safety program.

There has been no other business presented to the Commission on Medical Service.

Respectfully submitted,
John B. Gregg, M.D.

Meeting of the Traffic Safety Committee
Pierre, S. D. 12:00 Noon
September 26, 1964

Members Present: R. C. Jahraus, M.D.; J. Stransky, M.D.; J. B. Gregg, M.D., ex-officio.

Members Absent: R. Stiehl, M.D.

The Committee discussed possible areas of activity for the coming year.

The Governor's Traffic Safety Committee Advisory and Support Group's recommendation that the South Dakota Motor Vehicle Department appoint a Medical Supervisory Board on driver licensing was discussed. The Committee feels that such a Board is necessary and desirable but that its composition, functions, and method of operation must be carefully defined. This is a relatively new and unexplored area of medical society activity. Definite guidelines for medical advisory committees have not yet been developed at the AMA level.

A national conference on Medical Aspects of Driver Safety and Driver Licensing sponsored by AMA, The American Association of Motor Vehicle Administrators and HEW is to be held in Chicago in November of 1964. The Committee feels that several of its members should attend this meeting. Following this meeting the Committee will formulate recommendations regarding the establishment of the Medical Supervisory Board.

The Committee suggests that the EDITORIAL section of the **South Dakota Journal of Medicine and Pharmacy** and the Grab Bag be utilized to remind all physicians of their responsibility to urge their patients with disqualifying defects not to drive motor vehicles.

The Committee recommends that all physicians in the State be furnished a copy of the AMA SPECIAL REPORT on Medical Aspects of Driver Limitation as well as a copy of the AMA publication **Medical Guide for Physicians in Determining Fitness to Drive a Motor Vehicle.**

These materials will provide physicians with the information necessary to properly advise their patients.

The Committee also recommends that the SDSMA lend its support to any future legislative efforts aimed at revision of the Driver Licensing statute to bring it into conformity with the uniform vehicle code and thus to remove all exemptions from taking the full driver license examination.

John J. Stransky, M.D.

Dr. Hohm moved the acceptance of these reports. The motion was seconded by Dr. Tank and carried.

Dr. Gregg discussed the matter of ophthalmologists' fees in the OAA program and the problem created by the dispensing of glasses in this State. Dr. Hohm moved that the State Medical Association should make arrangements with the State Welfare Department to allow ophthalmologists to bill for services

provided by opticians employed by them if desired. This would not be a mandatory requirement and should be handled individually by the ophthalmologists. The motion was seconded by Dr. Giebink and carried.

Dr. Giebink moved that Dr. Gregg be given permission to set up a cleft palate clinic as requested. The motion was seconded by Dr. Tank and carried.

Dr. George Knabe presented the report of the Commission on Scientific Medicine.

Report of the Commission on Scientific Medicine

September 10, 1964

Consideration has been given to the manner in which the Commission should approach its duties. It has been decided that initially problems will be referred to one or more Commission members who have particular interest or specialty experience in a field. Members were polled as to the areas in which they would most like to work. The fields of mental health, mental retardation and tuberculosis are presently represented by members who have worked closely with these subjects in the past. Those assigned specific tasks will report progress to the assembled Commission at two or more scheduled meetings during the year; in the interim their work will be brought to the attention of the membership by means of letters and memoranda. It is hoped that members will not only work individually on problems but, acting in concert, will be able to make observations and render judgments on all major issues requiring deliberation.

A meeting of the Commission was held at 1:30 P.M., August 15, 1964 at the executive offices of the medical society. Members present were: Drs. T. E. Mead, G. W. Knabe, C. F. Johnson, R. E. Nelson, B. C. Lushbough, J. H. Lloyd, E. H. Heinrichs, and the Executive Secretary, Mr. R. C. Erickson. Topics of discussion included the following.

Tuberculosis: Dr. Robert Nelson, formerly chairman of the Tuberculosis Committee, provided background material. It was recommended that the society continue its efforts to encourage implementation of South Dakota's Tuberculosis Control and Treatment Law enacted by the 1963 Legislature in cooperation with the State Department of Health. The Committee previously recommended that initial treatment centers be established in several medical centers in the state where physicians may refer private patients for diagnosis, evaluation, initial treatment and surgery of tuberculosis patients. Follow-up treatment would be done by the private physician with over-all control under the supervision of the State TB Control Officer.

The Commission is to review the credentials of medical and surgical specialists interested in being appointed to the staffs of the initial treatment centers. Requirement for the medical specialist should be a physician with a special interest in treating tuberculosis and who is qualified in the judgment of the Commission. The requirement for surgical specialist should be a physician, Board eligible or certified in general surgery including some experience in thoracic surgery, or one who is qualified in the opinion of the Commission.

The Executive Secretary was directed to contact the State Hospital Association, State Health Department and the T. B. Association to ask for a resurvey of the hospitals in the state that are willing to participate in the program. After this survey has been completed the Executive Office is to contact the staffs of those hospitals for lists of physicians who are interested in treating T.B. patients.

It was also suggested that investigation be made of laboratories equipped to prove the requisite bacteriological studies.

The Executive Secretary was also directed to write to Dr. G. J. Van Heuvelen at the State Health Department to find out if a T.B. Control Officer has been hired and, if not, what progress is being made in this area. It was suggested that Dr. Van Heuvelen contact the National Jewish Hospital for suggestions as to part-time or full-time personnel. The previous T.B. Committee, recognizing the fact that the program needed someone to coordinate activities, suggested that if a physician cannot be hired, a lay individual qualified in medical administration or public health, be employed immediately to implement the law.

Section 5 (1) of the law empowers the State Health Department to "Establish and direct the operations of a statewide system for tuberculosis and communicable disease control and treatment . . ." There may need to be elaboration as to the scope of this law insofar as "communicable disease" is concerned.

Rehabilitation: Vocational Rehabilitation was discussed. No action was taken on the present plan for district consultants being developed by the State Department of Vocational Rehabilitation.

Mental Retardation: Dr. E. H. Heinrichs discussed mental retardation and informed the Commission of the programs underway in South Dakota. He has prepared a summary of activities in this field to date for publication in the **South Dakota Journal of Medicine and Pharmacy.** Dr. Heinrichs is a consultant to the State Health Department and is on the planning committee for the Comprehensive Mental Retardation and Mental Health Program. Dr. Knabe has been named to the Mental Retardation Planning Committee on Research and Statistics. One of the latter committee's tasks will be to explore the feasibility of designating mental retardation as a reportable disease. The South Dakota Society of Pathologists advises that its members will endeavor to inform physicians as to the appropriate methods for phenylketonuria testing.

Diabetes: "Diabetes Week" is November 15-21. Dr. Mead was delegated to survey the current status of public education and case detection programs in South Dakota.

Heart Disease and Rheumatic Fever: A one and a half day postgraduate seminar on "Basic Mechanisms of Heart Disease" will be presented by the University of South Dakota School of Medicine in Vermillion, November 6, 7, 1964. The program is designed to demonstrate application of basic science knowledge to the clinical management of heart disease. Featured speaker will be Robert L. Grissom, M.D., Professor and Chairman, Department of Internal Medicine, University of Nebraska College of Medicine. The course will qualify for 10 hours of AAGP credit.

Other subjects discussed by the Commission did not appear to present urgent problems. The meeting adjourned at 4:30 P.M. Matters which have been considered by communication between members include the following:

Mental Health: Dr. R. B. Leander, former chairman of the mental health committee, is a member of the Executive Committee for Mental Health of the State Mental Health and Mental Retardation Planning Authority. He will keep the Commission informed as to developments in this area and will, in turn, attempt to interpret the Society's interests to the State Health Department and others concerned with planning. He will represent the medical society at the AMA Second National Congress on Mental Illness and Health, in Chicago, November 5-7, 1964. The theme of the congress is "Community Mental Health Services and Resources — Mobilization and Orientation."

Clinical Pathology: The members of the former Committee on Clinical Pathology will continue to function as a planning committee for the Fourth Annual Clinical Pathology Workshops to be held partly under SDSMA sponsorship at the University of South Dakota School of Medicine, May 6-8, 1965. Continued support for this and other clinical pathology programs was recommended.

Annual Meeting: Dr. C. Rodney Stoltz, chairman of the program committee for the annual meeting to be held in Watertown, May 15-18, 1965, was advised of the Commission's willingness to assist that committee in any way desired. It was requested that the Commission receive a copy of the program, when available, so that it can be submitted to the Council prior to the meeting as required by the by-laws.

It appears that activities in the fields of tuberculosis, mental health and mental retardation are of major concern to the medical society. Accordingly,

these areas will be given special attention by the Commission on Scientific Medicine during the coming year.

Respectfully submitted,
COMMISSION ON SCIENTIFIC WORK
George W. Knabe, Jr., M.D., Chairman
Lawrence G. Behan, M.D.
Barbara Spears, M.D.
Bruce C. Lushbough, M.D.
Robert E. Nelson, M.D.
John T. Elston, M.D.
Eberhard H. Heinrichs, M.D.
Richard B. Leander, M.D.
Clark F. Johnson, M.D.
Noel deDianous, Jr., M.D.
Thomas E. Mead, M.D.
John H. Lloyd, Jr., M.D.

Dr. Hohm moved that the report be accepted. The motion was seconded by Dr. Elston and carried. Dr. Elston discussed the PKU program which has been carried on by the Jaycettes in South Dakota. Dr. Elston moved that the Commission on Scientific Medicine be requested to make a survey of the doctors in the State to determine what facilities are presently available and being utilized for PKU testing on a voluntary basis and that the Commission bring the results of the survey to the attention of the Jaycettes before they take steps to have a bill introduced at the next legislative session with the purpose of discouraging this type of legislation. The motion was seconded by Dr. Tank and carried.

Dr. Robert Quinn reported on the activities of the Commission on Legislative Activities and Governmental Relations. Dr. Lietzke moved that the report be accepted. The motion was seconded by Dr. Giebink and carried.

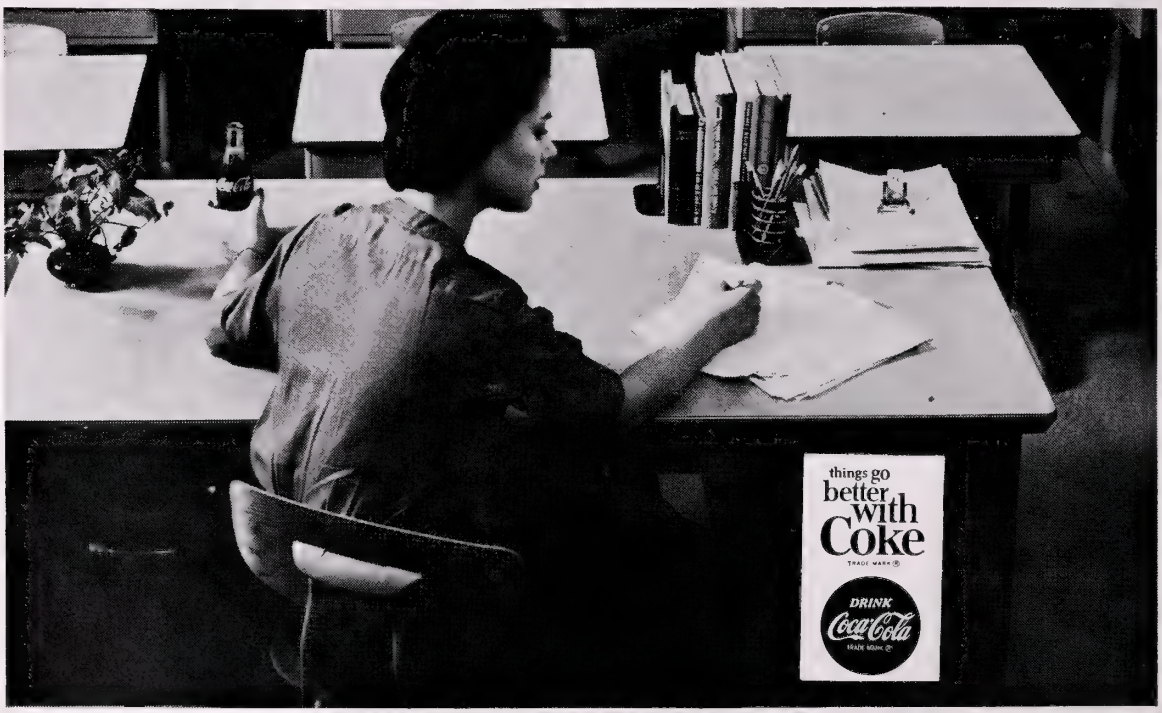
Dr. Donald Scheller reported on the activities of the Commission on Internal Affairs. Dr. Brogdon moved that the report be accepted. The motion was seconded by Dr. Hayes and carried.

Dr. C. L. Vogele reported on the activities of the Commission on Communications. Dr. Vogele recommended that copies of the Hospital Information Guide, published by the South Dakota State Department of Health, Division of Hospital Facilities, and the Directory of State and Federal Officials in South Dakota, published by the Governmental Research Bureau at the University of South Dakota, be furnished the secretary of each district medical society and the commission chairmen. He also recommended that the pamphlet published by the AMA on informational materials available be furnished each doctor in the State. Dr. Stransky moved the report be accepted. The motion was seconded by Dr. Askwig and carried.

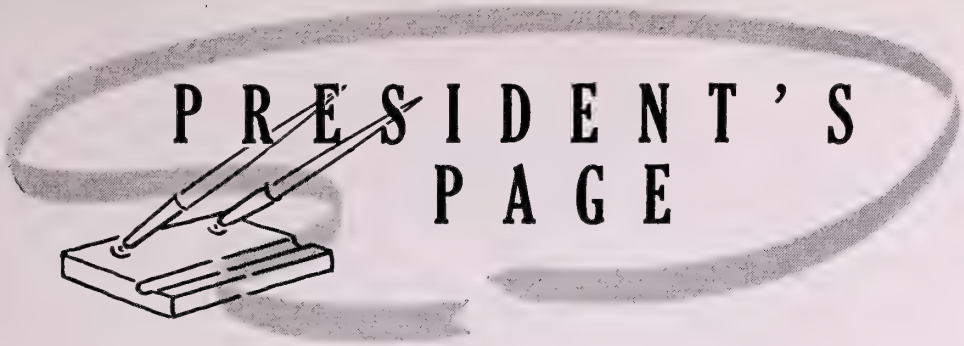
Dr. Marion Cosand reported on the activities of the Commission on Liaison with Allied Organizations. His Commission will conduct a survey of the voluntary health agencies in South Dakota concerning the overlap of activities, financing, control, and ethical standing. Dr. Tank moved the acceptance of the report. Dr. Stransky seconded the motion and it was carried.

Dr. Steele presented information on the Airlie Foundation and showed a film which was produced by the Foundation for the information of the Council. He requested permission of the Council to make arrangements to show the film on a Sioux Falls TV station to obtain the public's reaction to films of this type with the idea of entering into an agreement to purchase the films and arrange for distribution in South Dakota. Dr. Hayes moved that Dr. Steele be authorized to make the necessary arrangements for the pilot showing. The motion was seconded by Dr. Brogdon and carried.

The meeting adjourned at 5:00 P.M.



Whether you're a teacher correcting exams. A student cramming for them. A housewife cleaning up after the kids. Or a businessman working late at night. Whoever you are, things go better when you pause and refresh with ice-cold Coca-Cola.



PRESIDENT'S PAGE

Dear Fellow Members,

There was held in Las Vegas on October 2nd and 3rd, a Congress on Voluntary Health Insurance and Pre-payment with its theme the Conservation of the Health Care Dollar. This conference was sponsored by the American Medical Association and was a most illuminating and informative meeting. The following groups were represented: consumer, manager, labor, hospital, Blue Cross, Blue Shield, independent insurance plans, the insurance industry in general and physicians. You can see that most all groups involved in medical insurance and the health field were invited to participate and did so. Some of the things that were said were things we do not particularly like to hear.

While I am utterly convinced that the medical association is right in its broad, general principles and in many matters of application, we must nevertheless realize that there are opposing points of view and must make sincere and intelligent efforts to understand these different attitudes. To stand on a soapbox and say that we are right is akin to Marie Antoinette's trip to the guillotine when she said, "Let them eat cake." It may be noble and proper, but is more or less suicidal. There is a way, with intelligent understanding and much hard work, to explain our point of view and to educate certain other groups in an endeavor to get them to understand us.

You have heard it many times, but nevertheless it cannot be repeated too often, no matter how noble we may think we are, the average citizen hates to get sick and resents any and all money he may spend on medical and hospital care. We may very well say that we are the victims of cost accusations that are not ours but that belong more properly to the hospitals and to the drug industry. However, we cannot forget that the physician is the one who prescribes the drug and the physician is the one who sends the patient to the hospital. So, like it or not, the entire cost of medical care is placed at the physician's doorstep.

Perhaps rather than trying to disassociate ourselves from other facets of medical care, our energies might be more properly spent in trying to control the cost of medical care and to educate the general public, labor, management and the hospital in the necessity of proper and honest public education.

There is a growing feeling which I share and advocate, that many of our insurance programs are on the wrong foot. I do not believe that a medical care insurance program guaranteeing first dollar coverage to the participant is economically or practically sound. When we sell insurance, the general public believes that it is insured, no matter what our efforts to explain the fine print in the policy to him. It makes no difference to the individual whether he has to pay one dollar or twenty dollars when he thinks that he is insured. If he has to pay anything, he feels that his insurance has let him down. To me, the obvious answer is deductible major medical insurance allowing the patient to pay the first fifty, one hundred, two hundred, three hundred or five hundred dollars and then have insurance pay all the rest.

This would not only clear a great deal of misunderstanding among the purchasers of insurance, but it would reduce insurance rates by eliminating a great many charges and certainly eliminate a great deal of the administrative cost of insurance care.

No matter what you think of medical care insurance, it is here to stay and is our only answer to government control of medicine. We, therefore, should and must become vitally interested in the insurance problem. This means a great deal of study, thinking and action in the whole insurance field, including not only the mechanics of the insurance industry but the philosophy behind it.

Fraternally,
James P. Steele, M.D.
President

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

History is written by the light of the end result.

NEWS NOTES

The student A.M.A. at the Medical School of the University of South Dakota presented a Medical Career Day program on October 31, 1964. The featured speaker was **Robert Hayes, M.D.,** of Winner who spoke on "Medical Practice." Approximately 175 high school and college students attended the program.

* * *

E. Sheldon Watson, M.D., Brookings, was recently presented with an "Award of Merit" by the Brookings Chamber of Commerce. The award was in recognition of his outstanding civic contributions through the past years.

* * *

G. Robert Bartron, M.D., Watertown, was elected to the South Dakota State Senate on the Republican ticket in November.

Doctor Bartron will begin serving his first term in office on January 19th.

The American Therapeutic Society and the Minnesota Heart Association will cosponsor the second annual symposium for physicians, January 9 and 10, 1965 at the Radisson Hotel, Minneapolis. The symposium will feature experts in the cardiovascular field from the Mayo Clinic and the University of Minnesota as well as other U. S. medical centers.

The symposium has been accepted for a maximum of 8½ hours credit by the Academy of General Practice. It is made possible, in part, by an educational grant-in-aid from E. R. Squibb and Sons, Inc.

Full information can be obtained by contacting the Minnesota Heart Association, 1821 University Avenue, St. Paul, Minnesota 55104.

* * *

The Eleventh Annual General Practice Review will be held January 17-23, 1965 at the University of Colorado School of Medicine, Denver, Colorado. Further information and a detailed program may be obtained from The Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, Colorado 80220.

Dr. Robert C. Berson, Dean of the University of Texas South Texas Medical School, San Antonio, has been named the next Executive Director of the Association of American Medical Colleges.

He will assume his new position early in 1965, succeeding **Dr. Ward Darley.**

* * *

All candidates who have completed eighteen months each of approved progressive residency training in clinical obstetrics and clinical gynecology by June 30, 1965, will be eligible to apply for admission to the Part I (written examination) to be held by the American Board of Obstetrics and Gynecology on July 2, 1965. Application forms and current Bulletins may be obtained by writing to the office of the Secretary, Clyde L. Randall, M.D., American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216.

Completed applications for the Part I examination in 1965 will be accepted in the office of the Board only during January and February. Applications postmarked after February 28, 1965 will not be accepted.

PHARMACEUTICAL SECTION



GARY OMODT, PH.D.
EDITOR
College of Pharmacy
South Dakota State University
Brookings, South Dakota



PHARMACEUTICS VS. PHARMACY*

by

Gary Omodt**

I suppose that the remarks contained in this paper can be considered to be somewhat belated since the identical subject material was the topic of a Committee report of one of the AACP sessions in New York City last August. The above title "Pharmaceutics vs. Pharmacy" perhaps does not indicate the true content of this paper since it implies a very general implementation. The implication is that whenever the term "pharmacy" is used, it should be changed to "pharmaceutics." This is not the case in point. Our purpose is not to determine if the "practice of pharmacy" should be changed to the "practice of pharmaceutics" or if a "College of Pharmacy" should be changed to a "College of Pharmaceutics." The question before us is if the term "pharmaceutics" could more correctly be used to define the discipline within the College of Pharmacy commonly called the Department of Pharmacy. Any proposed change in itself, no matter what the nature, breeds reluctance. The average person hesitates to change from something that is firmly established. Any proposed change should be thoroughly studied and if the change will result in more advantages than disadvantages, the change should be made. The problems and difficulties arise in determining the advantages and disadvantages. Everyone is biased to some extent and bias may interfere with logic and reason.

In general, the content of this paper will consist of two main divisions. First, an attempt will be made to establish the desirability or undesirability of changing the name of the department from "pharmacy" to "pharmaceutics" and second, the information in the AACP Committee report will be discussed. The Committee report was in essence a survey of comments and remarks from colleges of pharmacy throughout the country. Such a large number and variety of comments were contained in the report, that it is quite difficult to think of anything original to add. Nevertheless, there are some points in the report that are worthy of discussion.

In order to discuss terms, the use of terms, and change in terminology, the terms must be defined. It has wisely been stated, that:

"Argumentative methodology
Consists of defining
One's terminology."

According to **Webster's Dictionary,**[1] the pertinent definitions for the words "pharmacy" and "pharmaceutics" are as follows:

"pharmacy"—The art or practice of preparing, preserving, compounding, and dispensing drugs, of discovering new drugs through research, and of synthesizing organic compounds of therapeutic value.

*Presented at the 27th Annual Meeting of District 5 of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy, September 27-28, Minneapolis, Minnesota.

**Associate Professor and Head of the Department of Pharmaceutical Chemistry, College of Pharmacy, South Dakota State University, Brookings, South Dakota.

[1] **Webster's Third New International Dictionary Unabridged,** Copyright 1961; G & C Merriam Company, Springfield, Mass.

"pharmaceutics"—The science of preparing, using, or dispensing medicines: pharmacy.

Although "pharmacy" is listed as a synonym for "pharmaceutics," it appears that the word "pharmacy" would generally be interpreted as being a **broader term** including pharmacognosy, chemical synthesis, pharmacology, compounding and dispensing of drugs, etc. whereas the word "pharmaceutics" would be relegated more closely to the preparation of dosage forms, stabilization and dispensing of medicines. When looking for the definition of any word, it is always tempting to seek out that definition that best fits one's needs, but even from a historical standpoint, the word "pharmacy" has certainly been understood to encompass all of the fields mentioned above. This is the exciting thing about the study of pharmacy. It has been called "generalization within specialization." Therefore, it does not seem unreasonable to give to the word "pharmaceutics" a more **limited meaning** than to the word "pharmacy."

There are three apparent objections to calling the department, the department of pharmacy. The first objection would be that if the study of pharmacy does indeed include the study of pharmacognosy, the study of chemical synthesis, the study of pharmacology, the study of drug compounding and dispensing, the study of pharmacy administration, etc., then a reasonable amount of each one of these fields should be included in the academic program of any department that purports to be a "department of pharmacy." The word "pharmacy," as stated before, implies and is defined as a very broad discipline, and any "pharmacy department" would, to be consistent, have to be just as broad in its coverage. Since most "pharmacy departments" do not embrace a significant amount of pharmacognosy, chemical synthesis, pharmacology, etc., they should more validly be called "departments of pharmaceutics."

A second objection is that it is somewhat confusing when a "college of pharmacy" has incorporated within it a "department of pharmacy." It appears illogical to have within a college, a department with the same name as the college. This is confusing to the layman, the other college students, pharmacy students and even pharmacy faculty themselves.

I will preface my third objection with a brief statement. Since I am not a dean or for that matter even a head or a member of a department of pharmacy, any conclusions or comments that I might make are certainly not weighted with a great deal of authority. Nevertheless, "department of pharmacy" may give the impression that that particular department is somehow a little more important than the other departments; after all, it has the same name as the college itself. Perhaps, historically speaking, that department **was** the most important, relative to the professional attitude of the pharmacist. This was when a compounded prescription was the rule, not the exception. But today, when the true professional picture of the pharmacist is seen when he consults with the doctor, advises the dentist, consults with his customers, advises a schoolboy about a chemical problem, or acts as an important member of the board of health; can we really say that the "pharmacy department" is any more important in that person's academic training than the pharmacology department; than the pharmacognosy department; than the pharmaceutical chemistry department? The professional stature of today's pharmacist depends, I think, quite equally on his education in each one of these fields. Certainly, they complement each other, but the high point of a pharmacist's education no longer consists of the ability to produce an elegant looking preparation from sodium chloride, boric acid, quinine hydrochloride, thymol and camphor water. Most elegant preparations that the pharmacist dispenses are already prepared for him. Even in the few prescriptions that he compounds, the chance of an incompatibility developing is remote. This is not to say that a pharmacist should not be trained to cope with incompatibilities; it **is** to say that incompatibilities occur quite infrequently. It appears that it is valid to assume that all departments within a College of Pharmacy contribute equally to the professional standing of the practicing pharmacist. If one department is named so as to imply a closer relationship with the honorable practice of pharmacy than the others, either the name of the college or the name of the department should be changed. Since this paper is concerned with the use of the terms "pharmaceutics" and "pharmacy" only, the change would appear to be limited to the department. I doubt if anyone, either from a historical, a definitive, or a practical standpoint, would suggest that the "College of Pharmacy" be changed to the "College of Pharmaceutics."

The advantages, then, in changing the name of the "Department of Pharmacy" to the "De-

partment of Pharmaceutics" would be that the change would provide a **more correct term** to define the department, there would be **less confusion** relative to the college and the department, and, from a nomenclature standpoint, all departments would be on **equal basis.** One disadvantage that could be mentioned is that the dictionary lists the word "pharmacy" as a synonym for the word "pharmaceutics" thus implying that both terms are equivalent.

It should be mentioned at this point, that even though a change may be desirable, and the term "pharmaceutics" would be preferred over the term "pharmacy," it may not be the best term. Other suggestions have been made to name the department the "Department of Professional Practice," or the "Department of Pharmacy Practice." There may be other more correct, more acceptable labels for this department and this should be investigated.

As mentioned before, the AACP Committee report consists almost entirely of survey remarks. In the report, there were 34 replies stating a positive attitude toward the change with 30 replies indicating a negative attitude. Of the colleges reporting, 11 already use the term "pharmaceutics" to define the department whereas 54 do not. One interesting reply consisted of the following comment, "I believe terminology in our schools and colleges of pharmacy does **not** need study. We hope to come up with something **definite** before too long." This statement implies an unsettled condition and yet suggests that somehow the situation will be clarified without any study.

Other comments indicated that the term "pharmaceutics" is unfamiliar, vaguely defined, and would have to be explained to the lay public, the university administration and the non-pharmacy faculty. It was stated that "a **great deal** of time would be spent explaining its meaning." In a practical sense, however, is the term "pharmaceutics" any more mysterious to the lay public, the university administration, and the non-pharmacy faculty than the terms "pharmacology," "pharmacognosy," "pharmaceutical technology," etc.? To state that a **great deal** of time would be spent in explanations is perhaps stretching the point somewhat.

It was stated that "history and tradition have given status and respect to the term 'pharmacy'." This, however is not a valid argument if the term is an incorrect one. Also, as previously stated, should one department within the college be singled out and "rewarded" with this status and respect any more than the other departments?

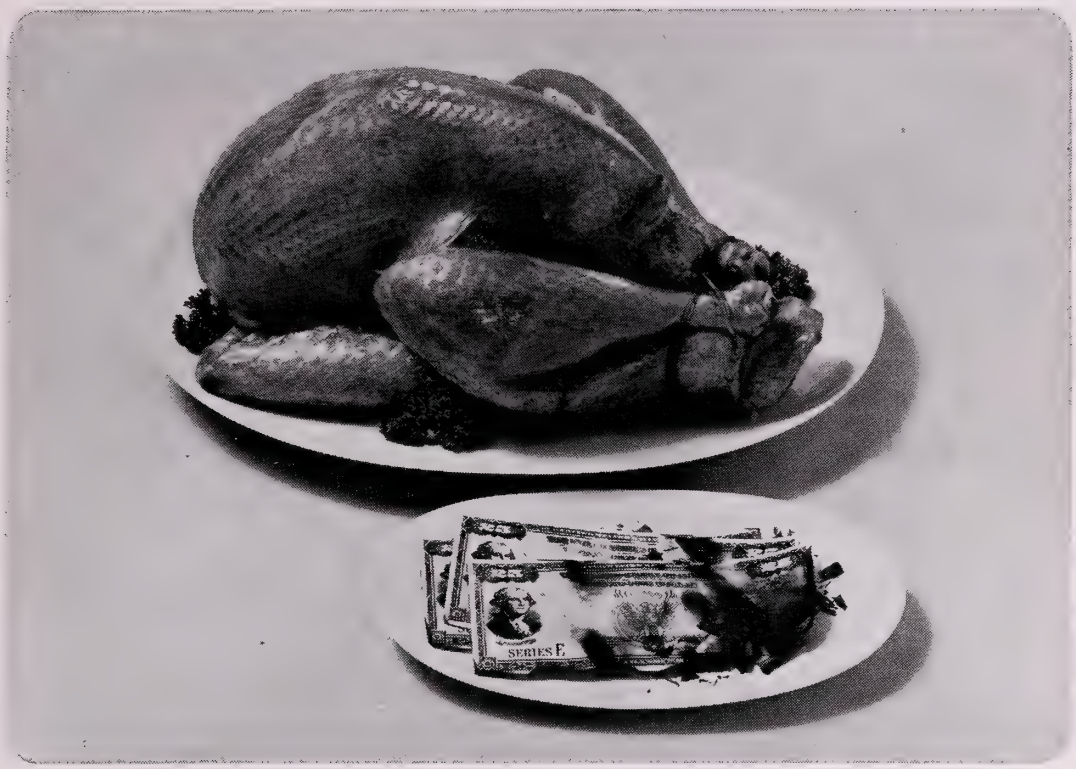
One reply stated that when a department has the same name as the college, confusion does **not** result to a significant degree. To speak of "insignificant confusion" is somewhat ambiguous and any confusion, if it can be eliminated, should be.

A rather disturbing attitude was evidenced in one reply. It is disturbing and somewhat depressing because it may reflect the true situation at least at some institutions. The comment is as follows, "Except in rather unusual circumstances, the practice of pharmacy seems to have no prestige value and often is looked upon as a 'last resort' as an occupational area for students whose academic achievement in secondary school leaves much to be desired." This type of an attitude towards pharmacy may be much more prevalent at some institutions than at others.

There were several replies that indicated an incorrect idea that the reason for the change was to give the department a name with more prestige value. This is not the case and the record should be made clear that it is not anticipated that a significant change in the department itself or in attitudes toward the department will occur simply by changing the name. Some of these comments are as follows: "It has been implied that a change in name will bring greater prestige, etc. — this is nothing short of sheer fantasy." "I have observed frequent changes in names of courses and colleges, but the quality of the education does not seem to change appreciably as a consequence of either." "Some educators are advocating these changes as a method of escaping from the 'deteriorated' image of pharmacy in the eyes of the public. I am opposed to 'running away' from the proper name for our profession." "The prestige (and other) values attached to an occupation do not depend entirely upon its name. 'What's in a name? . . .' What we really need is a new look." "A rose by any other name smells the same."

I would like to conclude this paper with the following verse:

An increase in prestige
Or a rise in stature
Cannot be done
With nomenclature.
Nevertheless,
When I'm at work,
Call me pharmacist
— Not soda jerk.



Why Mrs. Dobbs was afraid it had cost her $81 to roast a $6 turkey

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For some unexplained reason (even to Mrs. Dobbs), she tucked 3 crisp new $25 Savings Bonds behind the heating element of her electric roaster.

She next saw them as she was lifting the turkey out of the roaster. They were considerably crisper; in fact, roasted to a crisp.

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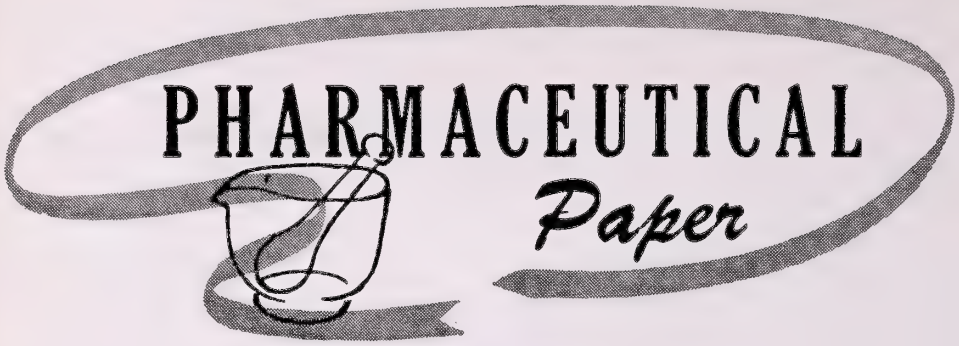
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PHARMACY IN BROOKINGS — A SHORT HISTORY*

Recollections of board sidewalks, dirt streets, a two-year pharmacy course at State College, and long hours behind prescription counters are shared by three residents in Brookings, South Dakota.

C. D. Kendall, Samuel Johnston, and **Clyde Tidball** were graduated as pharmacists from State College shortly after the turn of the century and spent most of their professional lives in South Dakota. Now retired, all live in the United Retirement Center in Brookings.

EARLY WHITE BABY — Tidball, born in 1883, was one of the first white babies born in Brookings. His father, **Taylor Tidball,** in partnership, operated Smith and Tidball Drug Store. It was the first drug store in Brookings.

Later, Tidball purchased his partner's share and operated the business until it was bought by his son in 1908. **Clyde Tidball** had worked in the store during summers and school vacations and also worked in Cripple Creek, Colorado and Rapid City following graduation.

It was the first store in Brookings to install a soda fountain and Tidball remembers how they made their own carbon dioxide for carbonated water. Shortly after World War II the business was sold to **J. C. Shirley** and became known as Shirley Pharmacy. For several years after selling, Tidball served as relief pharmacist throughout the state, including about 1½ years for Kendall.

WERE COMPETITORS — During most of their years in business, Kendall and Tidball were competitors in Brookings. Kendall purchased a store there in 1903 when the owner was forced to leave because of his wife's health. Following graduation, he owned a store at Artesian for two years before returning to Brookings.

By 1928, he thought the time had come to retire and sold the business. However, the depression proved him wrong and in 1932 he bought back a half interest and in 1939 became sole owner once more. Since 1940, his son Richard has operated the business. Kendall goes to the store each day to take care of business in connection with 15 apartments in the building.

Johnston started his career in a Dell Rapids drug store after graduation in 1903. He worked several other places in South Dakota and owned stores at Hazel, Vienna, and Bryant.

WATCHMAKER — He found it difficult to get a job in many places because nearly all drug store operators required that the pharmacist also be a watchmaker. So he spent a year in Chicago learning that trade which he followed exclusively during the last few years he was in business. He said he enjoyed it more than pharmacy which required that he be on duty long hours.

Hours for pharmacists when these three were starting were from 7 a.m. until 10 p.m. except on Saturdays when the store remained open until midnight. Half a day was put in on Sun-

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* Reprinted with permission from the **Sioux Falls Argus-Leader,** Sept. 16, 1964.

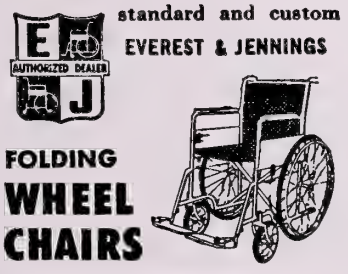
days. Nearly all prescriptions had to be compounded by the pharmacist in the store. "There were very few pills in those days," recalls Johnston.

Johnston went to college following service in the Spanish-American War. Never having attended high school, he spent a year in prep school at the college before beginning pharmacy studies.

$10 TO START — His mother gave him $10 on which to start school. He got a job in the dairy barn milking 20 cows morning and night for $20 a month. After the first year, however, he bought a barber shop near the college and had more than $400 when he finished school.

Room and board, Johnston recalls, cost $2.50 per week. Tidball, living at home, did not have to pay for room and board and got through college for about $150 per year including his clothing. He took an extra year of chemistry and was graduated as a pharmaceutical chemist.

Two changes Tidball has noticed in drug stores since he started are the huge array of products they now handle and the increase in cost of filling prescriptions. "We used to fill a lot of prescriptions for 50 cents," he said.



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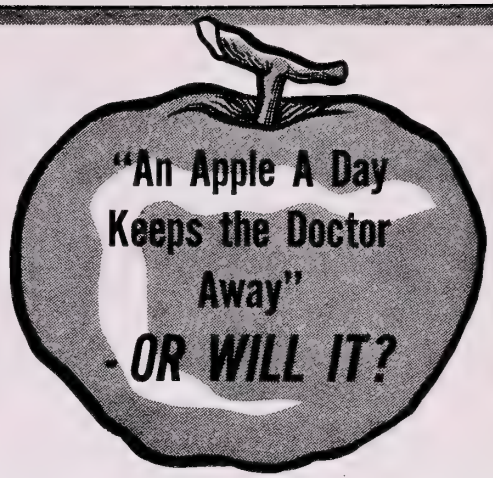
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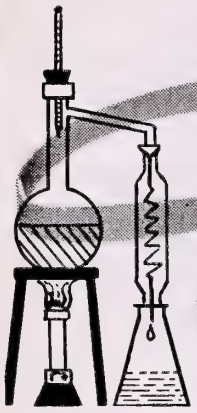
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Advances In Drug Research

OVER-POPULATION, A GLOBAL PERIL

"We have been God-like in our planned breeding of our domesticated plants and animals, but we have been rabbit-like in our unplanned breeding of ourselves," said Historian **Arnold J. Toynbee** when addressing a world food conference in June of 1963.

When mankind conquers disease, war, and crop failure, it will still face another peril — the thundering tramp of over-population, Dr. Toynbee said. The statistics bear him out. Today the world has about 3 billion mouths to feed and fully half of them are going hungry. In another 40 years, the number is expected to double. At the present rate of increase, 12 billion people may be struggling for existence on the planet 75 years from now. Perhaps through the wonders of technology, a way can be found to sustain this swelling mass of humanity; but in time there would only be a problem of more living space.

On the basis of facts now known, The Population Bureau of Washington, D. C., says there are two alternatives and only two:

1) Either concerted action must be taken to lower birth rates;

2) Or, death rates will rise from ruthless and impersonal forces such as famine, pestilence, and war.

The problem is compounded because population is growing most rapidly and relentlessly in Asia, Africa, South and Central America — the very areas which can least support such growth. In many countries, good farming land and job opportunities already are notably scarce. Incomes generally are at a level sufficient only for bare survival. Around the globe, hundreds of thousands of women are giving birth to children, half of whom will never know a well fed day in their lives. Large numbers of them will never reach maturity, in large part because of inadequate nutrition.

Brazil and Mexico's populations are increasing at a rate unequalled among major countries in the Western Hemisphere and in few countries elsewhere. In the decade ending in 1962, their populations had been multiplying at rates of **3.4%** and **3.2%** respectively. Between 1950 and 1962, Mexico's population jumped from **25,000,000** to **37,000,000** and, except for the U. S. and Brazil, is now the largest in the hemisphere. Costa Rica, although it has only 1,300,000 people, is booming along with a **4.1%** annual increase, the highest in the hemisphere, followed by the Dominican Republic and El Salvador, both growing by **3.5%** per year. Birth rates are fairly constant, but the death rate, particularly infant mortality, has been reduced dramatically. This means that **more women are surviving to reach child-bearing age.** Africa's birth rate of **47 per thousand** is the highest for any continent. The death rate is high too, but 22 new persons per thousand are added each year to the population. At the present rate, Africa's over-all population will **more than double** by the end of the century.

Birth control methods of one kind or another have been practiced for centuries. Primitive contraceptive measures taken as long ago as ancient Egypt obviously were less than reliable.

Here, in ascending order of effectiveness, are some of the methods currently in use:

Coitus interruptus — withdrawal before emission is practiced extensively, although one study indicates that it is effective only about 50% of the time.

The douche—even when done within minutes of intercourse, also is associated with a relatively high rate of failure.

The condom — long has been the most widely used contraceptive device and in recent years has been vastly improved. Still it is not accident proof.

Diaphragms — have been improved since their introduction in the last century and, today, are highly effective when used as they are supposed to be, in conjunction with contraceptive foams and jels. The procedure, however, is complicated and foams and jels used without the diaphragm are much less efficient. Permanent or semi-permanent intra-uterine devices are also receiving serious attention by physicians and sociologists concerned with birth and population control.

There remains the so-called "rhythm system." This is more effective than some of the methods already discussed; how effective is anybody's guess. Based on the length of the woman's cycle, the rhythm system requires a period of abstinence, usually covering about 7 days before and after ovulation. The problem here is that the length of the cycle and the day of ovulation may change more frequently in some women than in others. To make the system entirely safe, a simple test is needed to determine the precise time of ovulation, and that has not been forthcoming. Another approach, presently being carefully studied in several research centers, is the use of hormones to regulate the menstrual cycle so that ovulation time can be accurately predicted.

Beginning in 1955, clinicians began to take an active interest in a remarkable group of hormone drugs which, when taken by mouth, seemed to offer great promise of keeping rampant birth rates in check. Over the next 8 years, long-term trials in more than 3,000 women in Puerto Rico and Haiti showed conclusively that the "pills" were indeed highly effective in controlling menstruation and ovulation. Some 200 women in this continuing study have been taking such medication for well over four years.

Recently, a panel of well known gynecologists summed up the results in the publication **Medical Science:**

"The effectiveness of this approach of child spacing utilizing oral contraception is almost 100% (if used properly) . . . The usual side effects are not serious. There is a prompt return of fertility following the cessation of the use of these compounds, and there is no apparent damage to subsequent offspring."

Nevertheless, with the earliest pills, side effects — breakthrough bleeding, breast tenderness, vomiting, and nausea — were sometimes frequent and uncomfortable. Later refinements reduced the frequency and severity of these complaints and a number of the compounds were made generally available on prescription by the physician. Today, the National Academy of Sciences of the U. S. estimates that about 4 million women around the globe have turned to oral tablets as the simplest and most effective means of regulating fertility.

An example of one of the newer entries in the oral contraceptive field is **Provest,** which was developed in the research laboratories of the Upjohn Company of Kalamazoo, Michigan. Provest is a combination of medroxyprogesterone acetate and ethinyl estradiol — both derivatives of natural female hormones — in a ratio of 200 to 1. The action of Provest and similar products is indirect. They prevent the pituitary gland, that amazing little organ at the base of the skull, from secreting hormones which are needed to stimulate ovulation — release of an egg by an ovary. When the recommended dose is taken every day, a hormonal balance is attained which — in effect — tricks the woman's body into behaving as though she were already pregnant.

MEASLES ON THE WAY OUT

A large scale, many-sided test of a new one-shot live measles vaccine by the Chicago Board of Health was reported in a scientific exhibit at the 33rd annual meeting of the American Academy of Pediatrics. It is hoped that this and/or similar vaccines may eradicate measles as a major cause of childhood death.

The tests cover three years, involving altogether nearly 7,000 children between the ages of 8 months and 5 years. In one recent series of more than 1,600 children vaccinated, a sample

of 217 were tested for measles antibodies. The rate of immunity achieved in this sample group was 99.1 per cent. No deleterious reactions were observed in follow-up examinations.

Dr. Samuel Andelman, explaining the importance of an effective lifelong vaccine, said:

"Measles is a significant public health problem. Deaths resulting from the complications of measles exceed those from many diseases that the public considers more serious. Eradication of measles which is now a possibility with the use of effective vaccines could eliminate a major cause of death in children."

In commenting on the duration of effect of the Schwarz-strain vaccine, Dr. Andelman added:

"Some children immunized in 1962 still have protective antibodies against measles 2½ years later, and none of the children in this group has developed measles."

Dr. Morten Andelman commented on measles complications:

"Of the many possible complications of measles, the most serious are pneumonia and encephalitis. Mounting evidence indicates that our knowledge of the full consequences of measles encephalitis — or even severe measles — is far from complete. There is growing evidence that this disease, even in mild form, may play a significant role as a cause of mental retardation, learning difficulties, and personality or behavior changes. Approximately one-fourth of all measles encephalitis cases end fatally, and another third suffer some form of permanent damage, such as paralysis or mental impairment."

Other known complications of measles, according to the exhibit, are middle-ear infection, bronchitis-broncholitis, ulcer of the cornea of the eye, inflammation of the heart muscle, and a tendency to hemorrhage. Because of the incidence of brain and nervous disabilities related to measles, and because of published evidence that half of all measles patients show abnormal brain-wave patterns, the Chicago study included before and after brain-wave recordings of 19 children inoculated with the Schwarz-strain vaccine. None showed brain-wave abnormalities attributable to the vaccine.

IMPROVED TEST DEVELOPED FOR SYPHILIS SCREENING

A faster, economical, and more accurate screening test for syphilis was described in a scientific exhibit by **Kenneth A. Borchardt,** Ph.D., at the 92nd annual meeting of the American Public Health Association in San Francisco.

Called the macroscopic latex test, the new screening agent is based upon the fact that antibody-like material in syphilitic blood, reagin, agglutinates the latex particles coated with cardiolipin (fats extracted from fresh beef hearts). The test is conducted by simply adding one drop of the cardiolipin coated antigen to two drops of the patient's blood serum on a glass slide. The two are mixed and the result can be read in two minutes or less. If agglutination occurs, this indicates the probable presence of syphilis and emphasizes the need for confirmatory testing.

In his study covering 615 sera, Dr. Borchardt found that 602 or 97.8% of sera tested with the macroscopic latex test agreed with results found with the cardiolipin microflocculation test commonly used as a screening agent for syphilis, while only 13 disagreed with the microflocculation test. After confirming these results against control tests using complement fixation tests, the macroscopic latex test was found to be 99.8% accurate as against 98.2% accuracy with the cardiolipin microflocculation test. There were ten false positives found after using the microflocculation test, only two after the macroscopic latex test. Only one false negative was found following use of the macroscopic latex test.

Dr. Borchardt pointed out that the conventional microflocculation test took 30 minutes to perform because the sample must be rotated for mixing, a heat process must be employed, and the results read by microscope. The new test can be read with the naked eye within **two minutes** after two drops of blood serum are mixed with one drop of the cardiolipin coated latex antigen. Dr. Borchardt said that the new test (to be introduced in the near future under the name "Seroscreen" by the Knickerbocker Biologics Unit, Pfizer Laboratories Division, Chas. Pfizer & Co., Inc.) is more specific than the standard test, and that "in an effort to increase accuracy in a screening program for syphilitic reagin, it is recommended that all sera tested employ the macroscopic latex test to decrease the incidence of false positive results."

SMOKING DETERRENTS

Nearly 60 products designed to help cigarette users stop smoking are now on the market, according to the **Bulletin** of the University of Rochester Department of Pharmacology. Because of their increasing use and because the most widely used ingredient in these products — **lobeline sulfate** — may cause uncomfortable side effects, the **Bulletin** suggests that poison control centers should be aware of possible toxic reactions to such products.

The University of Rochester group points out that the selection of the various ingredients "can be roughly ascribed to two theories of smoking deterrence." The first approaches the problem by trying to provide a substitute for nicotine — such as lobeline — thereby reducing symptoms of physiological dependence while the smoker is weaned away from cigarettes. The other theory holds that smoking involves a psychological need rather than dependence on nicotine. Products formulated according to this theory endeaver to give the smoker a substitute for the oral satisfaction he gets from smoking — for example, in the form of a lozenge or pastille to suck, or chewing gum. Some of these products also contain ingredients with an aftertaste that causes cigarette smoking to be mildly to thoroughly unpleasant.

Among the ingredients currently used in antismoking products are **hops, myristica, saccharin, sugar, mustard, ginger, vitamines, antacids,** and flavorings such as **celery, nutmeg, mace, cinnamon, coriander, licorice,** and **spearmint.** Lobeline, the most popular ingredient, is the principal alkaloid of the plant Lobelia inflata (Indian tobacco). It closely resembles nicotine, although it is less toxic. Like nicotine, lobeline affects the central nervous system: first stimulating, then depressing. "In theory, lobeline should produce a 'satiety effect' which would decrease the desire for tobacco," the article states.

The most common side effects of lobeline are nausea, discomfort in the pit of the stomach, dizziness, and headache. "These symptoms are noted especially after a cigarette is smoked, and may add to lobeline's effectiveness; they tend to disappear with continued use of the drug." The manufacturers' labels on these products **do** warn against possible side effects and advise users to discontinue taking the drug if these appear. The labels also discourage use by weak or sickly people . . . caution parents to keep these products out of children's reach . . . and stress the need to follow directions involving amounts of doses and frequency of use.

The article concludes that "since many smoking deterrents are in the form of candy-like lozenges, pastilles, or wafers, they are likely to be especially attractive to children. Although most of the ingredients used are innocuous, products containing lobeline sulfate should be treated with great respect. The amount of lobeline per unit of the product is small, but lobeline has an unfortunate reputation as a variable drug, and individual tolerances to it differ widely. In overdoses it is highly toxic, though fortunately it seems to have a built-in emetic device."

NEW YORK CARDIOLOGIST OFFERS EXPLANATION WHY HEART MUSCLE DOESN'T TIRE

What may be the solution of a mystery science has pondered for 2,000 years — why normal heart muscle does not tire as skeletal muscles do — was offered in a report by **Dr. Bruno Kisch,** director of the Electron Microscopic Research Institute of City Hospital, Elmhurst, New York City.

According to Dr. Kisch, who uses electron microscopy to study the cardiovascular system, the heart muscle cell contains 300 to 400 times the number of fatigue-fighting submicroscopic particles as does the skeletal muscle cell. Dr. Kisch first published on his electron microscopic studies of heart muscle cells in 1951, anticipating his recent findings. The submicroscopic particles within the protoplasm of heart muscle cells are called sarcosomes. These are mitochondria that contain and probably produce enzymes which detoxify fatigue-causing metabolites produced by exertion.

This action occurs in all muscle cells. In most skeletal muscles, sarcosomes are too few to prevent the accumulation of toxic metabolites, and resultant fatigue. In heart muscle cells, by contrast, their number is so great that — except in heart failure — fatigue toxins have no chance to build up. The number of sarcosomes is in fact so great in a heart muscle cell — electron micrograph slides were shown to demonstrate it — that their mass in some places

exceeds that of the contractile fibers. Dr. Kisch also showed evidence that, in a damaged heart, many of the sarcosomes had degenerated. (In this case, heart muscle was taken by needle biopsy immediately following death of a patient.)

Other experiments supporting these theses are as follows:

— In wing muscles of insects with fast wing action, sarcosomes are present in large numbers and are so large they can be seen with the light microscope.

— The number of sarcosomes in muscles of the eye and in diaphragm muscles, which normally work constantly throughout life without fatigue, are also far higher than in other skeletal muscles — although lower than in heart muscle cells.

— In animals subjected to long-lasting hypoxia — oxygen deprivation which damages hearts — counts of heart muscle cell sarcosomes were significantly reduced from those in control animals.

This discovery has immediate medical applicability. It can, for example, be employed to test heart stimulants, or cardiotonic drugs. The mode of action of digitalis, used for centuries as a heart stimulant, is unknown. Does it protect heart muscle sarcosomes from degeneration under such stress as hypoxia? Does it aid damaged sarcosomes to function normally? The answers are still to come.

Answers to such questions would be of great value in new drug research, Dr. Kisch suggested. So would tests that would prove at the basic cell level the effectiveness of new drugs hopefully produced to strengthen ailing hearts, he said.

CANCER INHERITABILITY

Can cancer-producing viruses be inherited? New evidence suggests that they may be. Medical executives of 300 life insurance companies heard **Dr. James P. Cooney,** vice president for medical affairs of the American Chemical Society, outline this new theory in New York City.

Supporting this explanation for the apparent tendency of some cancers to run in families, Dr. Cooney cited studies of the blood of cancer-prone families. He also discussed recent findings of American and Russian scientists, tracing the apparent link between viruses and cancer. "Imagine that a hypothetical oncogenic (tumor-producing) agent might have caused a tumor in a distant ancestor," Dr. Cooney suggested. "The virus could then have passed without causing any harm through the great grandfather, then through the grandfather, and might have caused a tumor in the father. Accordingly, in a human host, one century or even two might conceivably elapse between successive cases of tumor or leukemia due to the same agent, and transmitted from one generation to another."

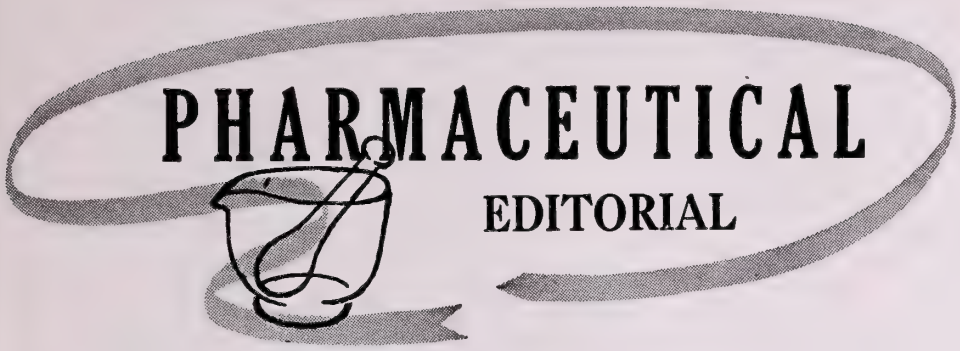
Proving or disproving this idea is "extremely difficult, if at all possible at the present time," Dr. Cooney said. One reason is that after a virus invades a cell, possibly triggering a cancer-producing change, the virus can no longer be detected by any current method.

One line of attack on potentially cancer-producing viruses may be to "learn to produce relatively harmless viruses which could crowd out disease-producing viruses of a specific kind, thus halting the progress of disease. There is also some likelihood of creating a virus which would ignore healthy cells but destroy cancerous cells."

Scientists have already successfully altered viruses so that the change is permanent and has been passed on to the descendants of that virus. The step to tailoring specific changes for possible anti-cancer activity may be a long one, but if successfully taken, could be "of great benefit to mankind," he said.

FOR BETTER RESULTS . . .

Mention the Advertisers in the Medical Journals



A FULL LIFE

Knowledge belongs to today,
We speculate about tomorrow;
Yesterday is filled with memories
Of fear and joy and sorrow.

How pleasant to sit in the shadows
Of the slowly sinking sun,
And contemplate those things of days gone by,
Things that are long since done —.

We suspect that if all retired pharmacists were to write autobiographies, the literary market would be flooded with best-sellers. To the average man-on-the-street, the life of a pharmacist perhaps appears to be somewhat dull and uninteresting, — counting tablets, filling bottles, counting tablets, filling bottles —. The life of a pharmacist is much more than that. First and foremost, he has the privilege of working hand in hand with the physician, safeguarding and improving the health of the public. This is the real reason for the pharmacist's existence — the reason for his being what he is. Associated with this is a very warm and intimate relationship with each and every person that brings a prescription into the pharmacy. The pharmacist shares his clients' worries and anxieties concerning their afflictions. He shares their joy and happiness when helping to supply the needs of a newborn infant. He shows compassion at times of death and distress. He advises them relative to health matters in those areas in which he is qualified. The pharmacist may also act as an important member of the Board of Health or he may serve on the Hospital Committee.

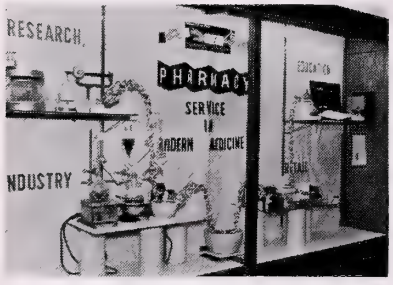
There is also the business side of being a pharmacist or drug store owner. What is more thrilling than to watch something that is one's own grow and prosper? There are decisions that must be made about purchasing, advertising, and displaying. There are professional, interprofessional, and business meetings to attend. There is the young apprentice to guide and teach. Interspersed amongst all of this is the association with the drug store personnel — the drug store family. The pharmacist has an opportunity to build this family into a tight, cohesive unit — one that is dedicated to the welfare of the store and as a result, to the welfare of the people that patronize the store.

The life of a pharmacist is as varied as the people that he serves — young people, old people, quiet people, loud people, tall people, short people, — each with a different request, desire, or question.

And so, if you are a pharmacist or soon will be, may you one day look back and say, "This is my life with which I am very pleased and of which I am quite proud. I helped fight disease and pestilence. I helped to make the world a better place in which to live."

PHARMACEUTICAL NEWS

PHARMACY WEEK DISPLAYS



APhA Pharmacy Week Display

The APhA Student Chapter prepared a window display in the library at State University for Pharmacy Week, October 4-10. The theme of National Pharmacy Week and of the display was — **Your Pharmacist — Serving You More — Serving You Better.** The display depicted how the different facets of pharmacy blend together in serving the public. The persons directly responsible for the display are **Rodney Parry,** Canistota, **Douglas Kapaun,** Sioux Falls, and **Dennis Hins,** Wessington, senior pharmacy students. Mr. Parry is president of the chapter. A picture of the display was entered in the National Pharmacy Week display contest.

Members of Rho Chi, honorary pharmacy society, also prepared a Pharmacy Week display in the Administration Building at the University. This display showed a number of interesting historical items relative to the practice of pharmacy. **Craig Schnell,** Sturgis, senior pharmacy student, is president of Rho Chi.

STUDENT NEA CONVENTION

Students representing all the colleges and universities in South Dakota registered for the annual convention of the South Dakota Student National Education Association held November 7 at State University. One feature of the program was a morning panel on student professional organizations. **Rodney Parry,** Canistota, senior pharmacy student, acted as one of the leaders for this panel. Mr. Parry represented the APhA Student Chapter.

ON GUARD

The pharmacist has a definite role in spotting and reporting adverse reactions, manufacturers' packaging errors, and other health hazards related to drugs, **Dr. Joseph F. Sadusk, Jr.** said in an address to the American College of Apothecaries convention which was held in Dallas, Texas, October 24-27. "We physicians depend upon you to see that our patients get the prescribed medications, properly dispensed, and with good directions," Dr. Sadusk told the meeting. Pharmacists should review new package inserts regularly to keep abreast of the rapid changes in drugs and keep a complete reference file in the prescription department, he said.

NEW PHARMACY BOOK

A new book entitled, **"Pharmacy: A Synthesis of Sciences,"** is described in the October issue of the **Journal of the American Pharmaceutical Association.** Written by **John T. Fay, Jr.,** the book is published by D. C. Heath and Company as science resource material for use in high schools and junior colleges.

APhA President **J. Curtis Nottingham** urges pharmacy association executives to consider using the book as an instrument for broadening public knowledge about the profession. "In particular," Mr. Nottingham notes, "the book would be an appropriate gift from local and state pharmaceutical associations to newly elected legislators and assemblymen.



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METAMUCIL® brand of psyllium hydrophilic mucilloid

"Diverticulosis ... a low-roughage diet is advisable.... Constipation is avoided, preferably by the daily use of Metamucil.

"Diverticulitis Mild, chronic symptoms of diverticulitis, such as diarrhea or flatulence also are treated[1] by low-roughage diet, adequate fluid intake and Metamucil...."

Usual Adult Dosage: One rounded teaspoonful of Metamucil (or one packet of Instant Mix Metamucil) in a glass of cool liquid one to three times daily.

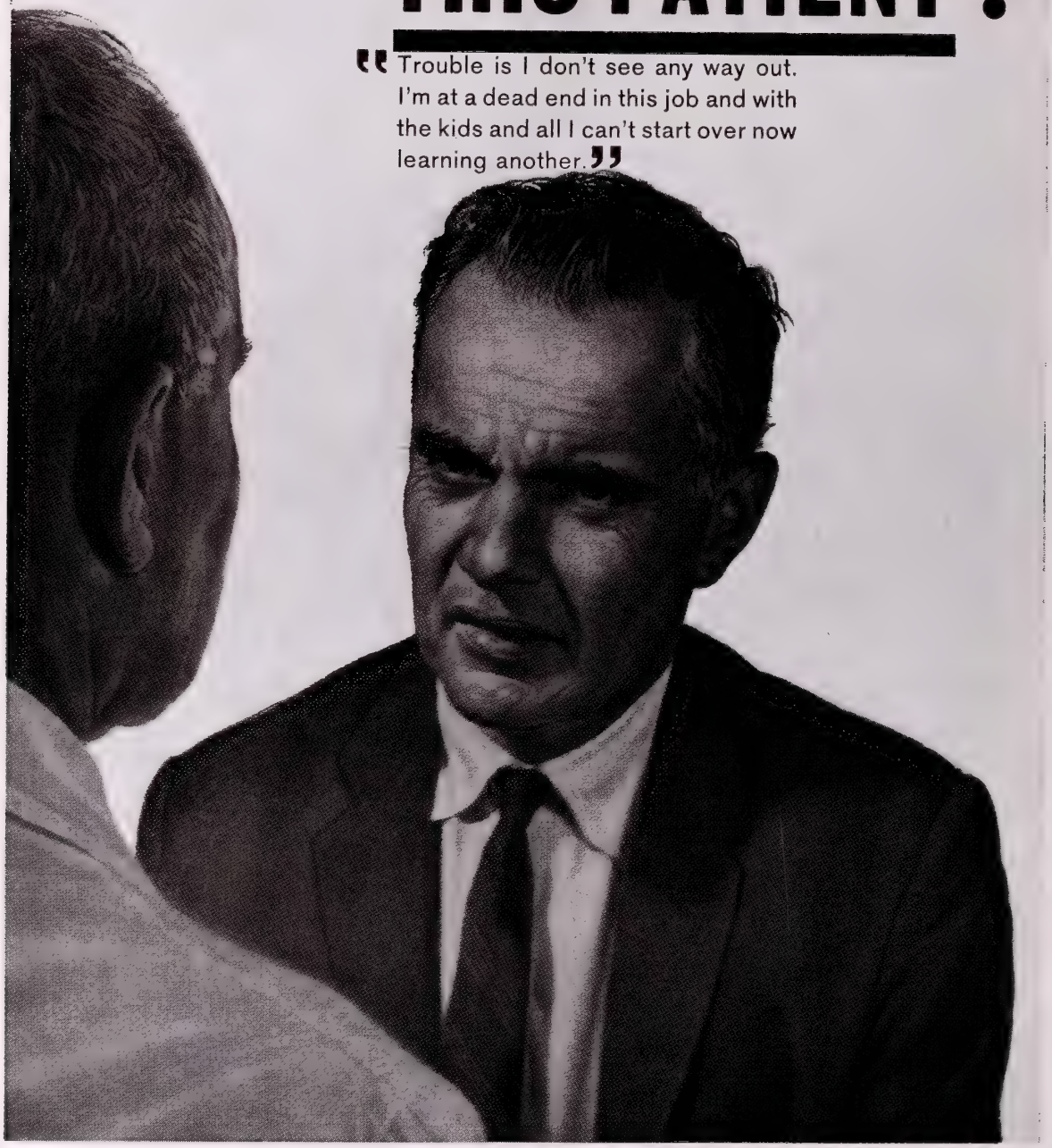
Metamucil is available as Metamucil powder in containers of 4, 8 and 16 ounces and as flavored Instant Mix Metamucil in cartons containing 16 and 30 single-dose packets.

1. Welch, C. E., Diverticula of the Alimentary Tract, in Conn, H. (editor): Current Therapy—1961, Philadelphia, W. B. Saunders Company, 1961, pp. 224-225.

SEARLE

Research in the Service of Medicine

RECOGNIZE THIS PATIENT?



"Trouble is I don't see any way out. I'm at a dead end in this job and with the kids and all I can't start over now learning another."

Indications: Depression, both acute (reactive) and chronic, especially when the depression is accompanied by anxiety, insomnia, and related symptoms. **Contraindications:** Benactyzine hydrochloride is contraindicated in glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use. **Precautions:** Should administration of meprobamate cause drowsiness or visual disturbances, the dose should be reduced. Operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Prescribe cautiously and in small quantities to patients with suicidal tendencies. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after prolonged use at high dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal **Side effects:** Side effects associated with 'Deprol' have consisted primarily of drowsiness and occasional dizziness, and infrequent skin rash and nausea. *Benactyzine hydrochloride* – Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

When you recognize depression and anxiety traceable to an emotionally charged situation with no somatic disorder

—*start the patient on 'Deprol'*

Typical situations in which 'Deprol' is indicated:

marital or other family problems ■ death of a loved one ■ financial worries ■ fear of cancer, heart disease or other life-threatening illness ■ pre- and post-operative apprehensions ■ retirement problems, and many other stressful situations which cause the patient to feel a sense of loss, guilt or unworthiness

Advantages of 'Deprol'

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meprobamate 400 mg. + benactyzine hydrochloride 1 mg.

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Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses of the drug. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasm, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis, and anaphylaxis. Treatment should be symptomatic and the drug not reinstituted. Isolated cases of agranulocytosis and thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Massive overdosage may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. **Dosage:** Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and reduced gradually to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients. **Supplied:** Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg. *Before prescribing, consult package circular.*



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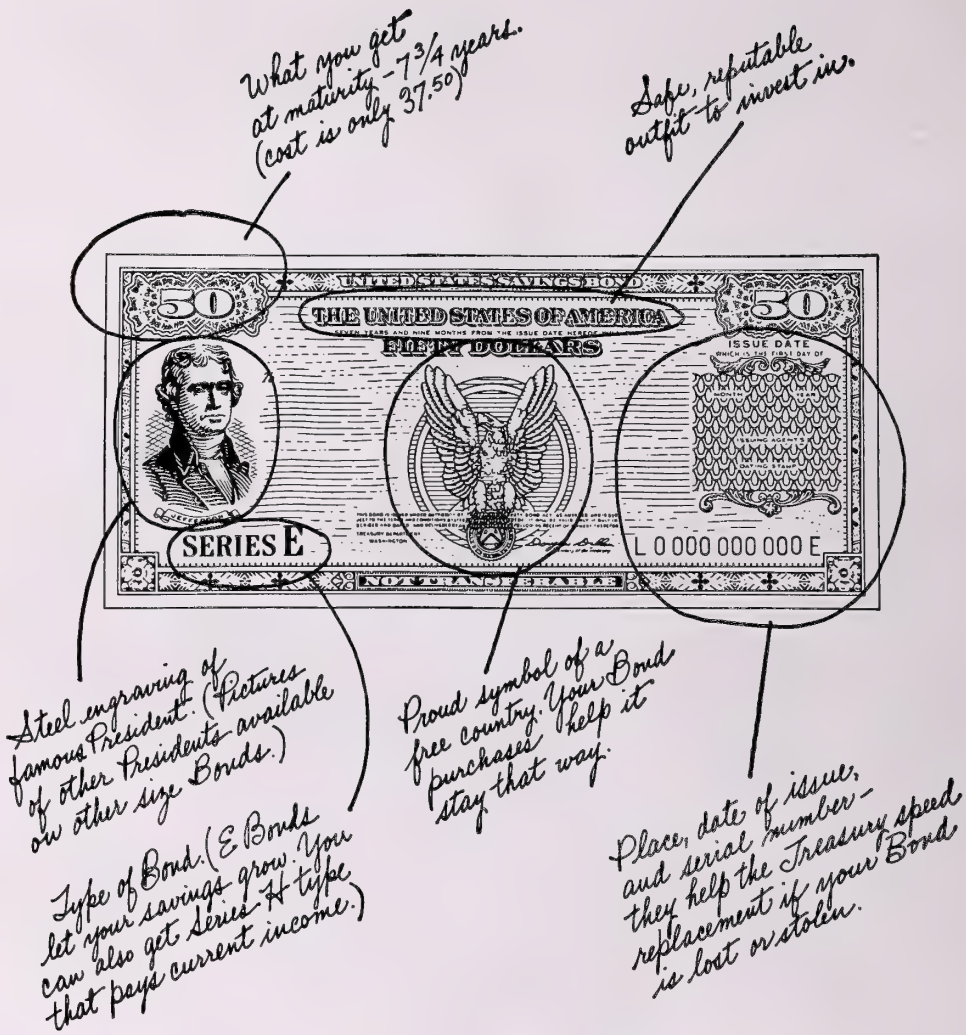
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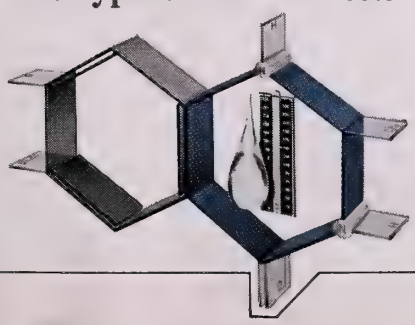
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1. Steigmann, F., and Griffin, R.: Evaluation of Quinethazone, a New Diuretic. J. Amer. Geriat. Soc. 11:945 (Oct.) 1963.

2. Schwartz, M.: Office Evaluation of a New Diuretic in Patients with Hypertensive Diseases. Scientific Exhibit Presented at the Clinical Meeting of the American Medical Association, Los Angeles, California, Nov. 25-28, 1962.

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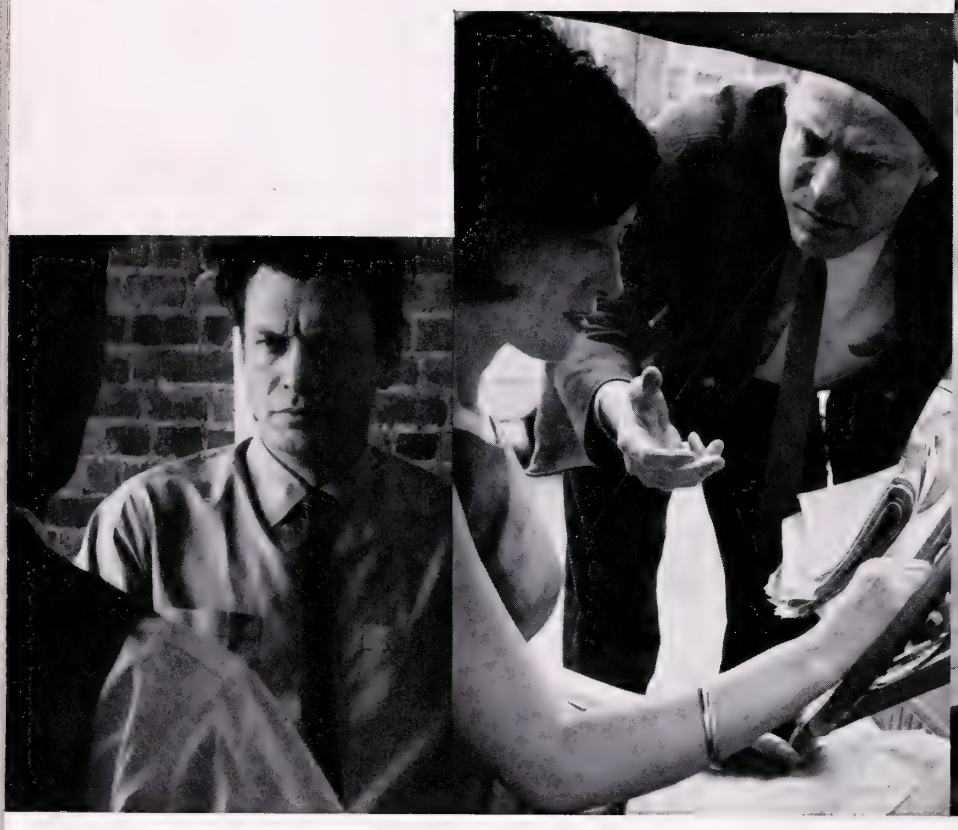
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-psychic tension intensified by concomitant somatic disorders





How to prescribe Valium (diazepam)

Indications: Valium (diazepam) is of use in dealing with anxiety reactions stemming from stressful circumstances or whenever somatic complaints are concomitants of emotional factors. It is useful in psychoneurotic states manifested by anxiety, tension, fear and fatigue.

Valium (diazepam) may also be useful in acute agitation due to alcohol withdrawal.

Valium (diazepam) may be of use to alleviate muscle spasm associated with cerebral palsy and athetosis.

Dosage and administration	*Usual daily dose*
Mild to moderate psychoneurotic reactions: Manifested by anxiety-tension alone or with depressive symptomatology, agitation, restlessness, psychophysiological disturbances	2 mg to 5 mg, 2 or 3 times daily
Severe psychoneurotic reactions: Where severe anxiety, fear, agitation, aggression or hostility exist alone or with depressive symptoms	5 mg to 10 mg, 3 or 4 times daily
Alcoholism: As an aid in symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis	10 mg, 3 or 4 times during the first 24 hours; reducing to 5 mg, 3 or 4 times daily as needed
Muscle spasm associated with cerebral palsy or athetosis	2 mg to 10 mg, 3 or 4 times daily

Contraindications: Valium (diazepam) is contraindicated in infants, patients with a history of convulsive disorders or patients with a history of glaucoma.

Warning: Valium (diazepam) is not of value in the treatment of psychotic patients, and for this reason should not be employed in lieu of appropriate treatment.

Precautions: In elderly or debilitated patients, it is important to limit the dosage to the smallest effective amount to preclude the development of ataxia or oversedation (not more than 1 mg, 1 or 2 times daily initially, to be increased gradually as needed and tolerated). As is true of all CNS-acting drugs, until the correct maintenance dosage is established, patients receiving Valium (diazepam) should be advised against possibly hazardous procedures requiring complete mental alertness or

(diazepam) therapy is not recommended. In general, the concurrent administration of Valium (diazepam) and other psychotropic agents is not recommended. If such combination therapy is used, careful consideration should be given to the pharmacology of the agents to be employed with Valium (diazepam)—particularly with known compounds which may potentiate the action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants.

Since Valium (diazepam) has a central nervous system depressant effect, patients should be advised against the simultaneous ingestion of alcohol and other central nervous system depressant drugs during Valium (diazepam) therapy. Safe use of Valium (diazepam) during pregnancy has not been established. The usual precautions are indicated when Valium (diazepam) is used in the treatment of anxiety states where there is any evidence of impending depression; particularly the recognition that suicidal tendencies may be present and protective measures may be necessary. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Side effects: In clinical use, fatigue, drowsiness and ataxia have been reported; in most instances these are dose-related and may be avoided by proper dosage adjustment. Mild nausea and dizziness may occur on occasion. As with any new agent, when it is administered for protracted periods of time, periodic blood counts and liver function tests are advisable. Abrupt cessation after prolonged overdosage may, in some patients, produce withdrawal symptoms (*e.g.*, convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and Librium® (chlordiazepoxide HCl). Changes in EEG patterns have been observed in patients during and after Valium (diazepam) treatment.

Paradoxical reactions, such as excitement, depression, stimulation, sleep disturbances, acute hyperexcited states and hallucinations have been reported. Other side effects noted have been blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash.

Valium (diazepam) is available as 5-mg and 2-mg tablets. For convenience and economy in prescribing, both strengths are supplied in bottles of 50.

Roche Laboratories endorses the principle of caution in the administration of any therapeutic agent to pregnant patients.

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